Strategy & Design for the NITC

Final Report

Contract No.:	278-C-00-02-00210-00
Contractor Name:	Chemonics International, Inc.
USAID Cognizant Technical Office:	Office of Economic Opportunities USAID/Jordan
Date of Report:	July 2004
Document Title:	Strategy & Design for the NITC Final Report
Author's Name:	Andrea Farnon and Josbert Kester
Activity Title and Number:	Achievement of Market-Friendly Initiatives and Results Program (AMIR Program)
	ICTI 433.11 Develop NITC Strategy and implementation Plan

Data Page

Name of Component: ICTI

Author: Andrea Farnon and Josbert Kester

Practice Area: N/A

Service Offering: N/A

List of Key Words Contained in Report:

Table of Contents

1 Executive Summary

Scope

In June 2003, The Law on the Deployment of Information Technology Resources in Governmental Entities (or NITC Law) was approved. This law enables the NITC to manage the deployment of IT resources in Governmental entities, and to become the implementation arm for Government ICT programs.

The scope of this report is to develop the NITC strategy and vision based on the new Law. This new strategy and visions enable the NITC to achieve its goals and objectives of being a world class technology center that can develop, implement and manage ICT programs on a national level. In addition services to be offered by the new NITC are defined and an organizational design is developed that enables the NITC to undertake its responsibilities.

Current issues

The Government of Jordan is facing significant issues regarding ICT deployment that are summarized below:

- o Government IT spending is not coordinated and not linked to the National ICT Strategy, leading to over-expenditure and inconsistencies in IT tender procedures.
- o There is no professional data center that can store government data, host government applications and manage the Government Intranet. This needs to be in place to ensure that the applications that are developed through the e-initiatives are maintained in a secure and reliable way.
- o In general, there is a lack of IT experience in Jordan, not only within the Government, but also in the private sector. There is brain drain of IT talents to countries with a more developed IT sector.
- o MoICT is tied to the recruitment process, labor conditions and HR policies of the GoJ which compare unfavorably to the private sector in all aspects. As a consequence, the e-initiatives are understaffed and employee churn is high.
- o MoICT must follow the Government procurement processes where procurement cycles are unpredictable and can take over 6 months.

NITC Vision

The NITC vision is directly derived from the National ICT Strategy of the Ministry of ICT and states the following:

Deploy ICT as a major contributor to Jordan's economic and social development through creating a connected society, connected businesses and connected government.

NITC Mission

The mission of the NITC is to achieve its vision by providing the following support to stakeholders:

- o Put the strategies, policies and plans of the Ministry of ICT, related to government use of ICT, into action to enhance, stimulate and accelerate the use of IT in Jordan.
- o Manage the Government Operations Center, offering secure and reliable facilities to meet high demands of government customers.
- o As government become a "launching customer" for innovative ICT services and stimulate the development of Jordan's private ICT sector.
- o Create a culture of ICT excellence and be an attractive employer for national and international ICT talents by offering a challenging working environment at the forefront of ICT development.
- o Become the central ICT authority and Chief Technology Office for government entities setting ICT standards and guidelines, ensuring the correct application of these guidelines and linking ICT spending to the ICT Master Plan.

Services

The below figure summarizes the services the NITC will offer and the department that will deliver these services.

Portfolio management Project management Business analyses	**National Programs**
NOC Data center Customer services	**Operations Center**
Standards & Policies Technology trends Security Management	**CTO**
Business Process Redesign Service development Infrastructure development	**E-Government**
IT training programs Competence management	**Manpower development**
Procurement ICT Budgeting Control	**Finance**

Organizational design


```
                              ┌──────────────┐
                              │   CEO NITC   │
                              └──────┬───────┘
               ┌─────────────────────┴─────────────────────┐
       ┌──────────────────┐                       ┌──────────────────┐
       │ Corporate Services│                       │Executive assistant│
       └──────────────────┘                       └──────────────────┘
         ─ HR
         ─ Internal procedures
       ┌──────────────────┐                       ┌──────────────────┐
       │   Secretariat     │                       │  Legal Counsel   │
       └──────────────────┘                       └──────────────────┘
         ─ Communications
         ─ ICT Master Planning
```

National Programs	Operations Center			Chief Technology Office	Finance	Manpower Development	e-Government Office
	NOC	Datacenter	Service Office				

National Programs
─ Portfolio management
─ Project management
─ Business analysis

Service Office
─ Service level management
─ Supplier management

Chief Technology Office
─ Consulting
─ Technology intelligence
─ Security management

Finance
─ Control
─ Financial analysis
─ Accounting
─ Facilities
─ Procurement
─ Budgeting

Manpower Development
─ IT Training programs
─ Competence management

e-Government Office
─ BPR
─ Service development
─ Infrastructure developme

☐ = outsourced

The above figure depicts the proposed organizational design for the NITC to offer the proposed services. The total organization size for the newly formed NITC will be 106 full time employees with the following division across the company:
Total number of General staff: 16
Total number of National Programs staff: 27
Total number of CTO staff: 8
Total number of e-Government staff: 19
Total number of Government Operations Center staff: 3
Total number of Finance and facilities staff: 28
Total number of Manpower Development staff: 5

Governance Structure

The NITC operates in a complex environment with various stakeholders. The below diagram shows the main relationships between the key stakeholders. Different groups of stakeholders are indicated by different colors.
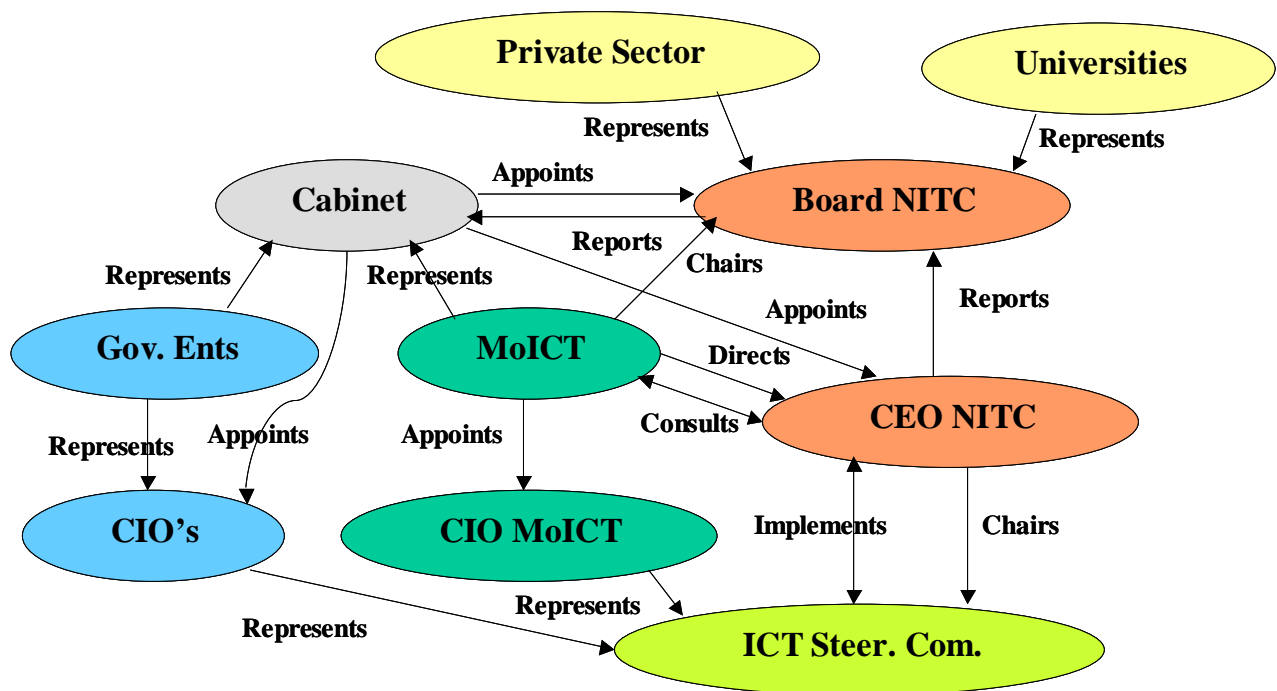
Human resource policy

The over-riding objective of the HR policy is to ensure that the NITC has competent, committed and motivated staff in sufficient quantities and at the right time. Special focus must be placed on rewarding, performance appraisal and training. In addition the NITC must offer competitive salaries to attract and maintain quality professionals.

At present within the MoICT and NITC roles and responsibilities are not clear, measurable performance targets are not agreed upon, limited to no performance feedback is given, no measures are taken to improve performance or discourage bad performance and nobody is held accountable for results.

Introducing a performance appraisal system is essential to solve the above problems and to ensure and maintain a successful NITC.

Procurement policy

NITC is involved in ICT procurement in two different roles. First, NITC procures ICT products and services required for the various initiatives and programs it manages in its National Programs and e-Government departments. Second, NITC plays a strong advisory role in the ICT budgeting and procurement process of government entities. For the latter role NITC should have full mandate for two reasons:

1. To link government ICT spending to the national ICT Master plan
2. To ensure compliance to the ICT standards set by the NITC

Branding

We strongly recommend that the NITC decides on a new name for various reasons.

1. NITC or NIC are not strong brands
2. The NITC does not have a reputation of excellence
3. A new name should be appealing and reflect what the NITC does and/ or the type of image it wants to radiate

NITC Strategy and Design

Whatever choice is made, the branding strategy for the NITC should focus on the following ends:

- o To ensure that government entities want to use NITC services
- o To ensure that Jordanian professionals want to work at the NITC
- o To ensure that the private sector wants to be a partner of the NITC
- o To attract funding to achieve the NITC goals

Finance

NITC is a public institution and has no profit objectives. Its financial model is based on the following starting points:

- o NITC provides services to government entities[1]. If possible, it will charge for service usage on a cost-plus basis.
- o When charging for services that are amply available in the private sector as well, NITC will not undercut market prices.
- o NITC will budget for generic services that can not be allocated to individual government entities or that are deliberately provided free of charge to stimulate service usage.
- o NITC will budget for overhead expenses.
- o NITC will be self-sustainable in the sense that it will explicitly substantiate its budget planning based on the above principles, instead of requesting additional funds just to balance the budget.

The proposed financial model calculates NITC budget requirements for the coming 5-year period 2005 – 2009, based on its revenues and expenses. The spreadsheet model consists of a number of worksheets covering the various areas of NITC's operations and is based on the assumption that NITC receives considerable revenue contributions (i.e. budget transfers) from Government Entities and third party funding (i.e. grants). The actual costs of running NITC's operations are equal to the Net Budget Requirements plus Revenues and Grants. The resulting income statement is shown below.

NITC Income Statement	2005	2006	2007	2008	2009
Revenues					
National Programs	JOD 654.933	JOD 1.139.366	JOD 1.165.951	JOD 1.193.156	JOD 1.220.997
Government Ops Center + e-Government	JOD 2.939.862	JOD 3.872.827	JOD 4.412.998	JOD 4.850.492	JOD 5.224.523
CTO	JOD 14.710	JOD 16.559	JOD 18.640	JOD 19.614	JOD 21.075
Manpower Development	JOD 379.947	JOD 818.932	JOD 1.050.219	JOD 1.077.596	JOD 1.105.757
Total revenues	**JOD 3.989.453**	**JOD 5.847.683**	**JOD 6.647.808**	**JOD 7.140.859**	**JOD 7.572.351**
Costs of goods sold					
ICT courses	JOD 300.000	JOD 716.333	JOD 942.490	JOD 964.481	JOD 986.986
Ops Center outsourcing	JOD 2.540.127	JOD 3.350.506	JOD 3.864.562	JOD 4.274.634	JOD 4.619.872
Total CoGS	**JOD 2.840.127**	**JOD 4.066.840**	**JOD 4.807.052**	**JOD 5.239.116**	**JOD 5.606.858**
General and administrative expenditures	JOD 2.486.787	JOD 3.130.815	JOD 3.092.878	JOD 3.246.565	JOD 3.408.470
Operating result	(JOD 1.337.462)	(JOD 1.349.971)	(JOD 1.252.122)	(JOD 1.344.821)	(JOD 1.442.976)
Investments	JOD 630.000	JOD 305.990	JOD 83.474	JOD 70.953	JOD 60.310
Gross Budget requirements	JOD 1.967.462	JOD 1.655.961	JOD 1.335.596	JOD 1.415.774	JOD 1.503.286
Funds & Grants available					
Net Budget requirements	JOD 1.967.462	JOD 1.655.961	JOD 1.335.596	JOD 1.415.774	JOD 1.503.286

---

[1] Only Domain Name Registration Services are provided to non-government organizations and individuals as well.

2 Document Overview

2.1 *Purpose of this document*

The purpose of this document is to describe the future NITC in sufficient detail that:

- The processes, services, tasks, responsibilities and budgetary requirements are clear.
- The requirements posed to the new organization are sufficiently detailed that a plan for implementation can be devised.
- His Excellency the Minister of ICT can ask for Cabinet approval regarding the organizational change of the NITC.

This document is intended for:

AMIR	Abed Shamlawi, ICTI component leader
USAID	Jamal Al-Jabiri
	Jim N. Barnhardt, Director, Economic Opportunities Office
	Sean Jones, Deputy Director, Office of Economic Opportunities
MoICT	Nadia Al-Said, Secretary General, Ministry of ICT
	His Excellency Dr. Fawaz Zu'bi, Minister of ICT
	Mahmoud Khasawneh, Chief Information Officer, Ministry of ICT
	Emile Cubeisy, JEI Advisor MoICT, Director of Promotions
	Haif Bannayan, MoICT Director of Finance & HR
NITC	Dr. Yousef Nusseir, President NITC
TSG	Steve Lewarne, Vice President and Principle
	Lisa Highland, Project administrator

2.2 *Approach*

The recommendations in this report are based on interviews with key stakeholders, private sector representatives, MoICT and NITC employees, workshops, research, bench mark studies (e.g. Taiwan's RDEC, UK's e-Envoy, Singapore's iDA) and best practice studies such as the Singapore IDA report and workshop.
The following individuals were interviewed and/ or briefed:

- o Steve Wade, AMIR Chief of Party
- o Abed Shamlawi, AMIR e-Government Coordinator/Acting ICTI Component Leader
- o Jamal Al-Jabiri, USAID, Project Managements Specialist
- o Jim Barnhart, USAID, Director Economic Opportunities Office
- o H.E. Dr. Fawaz Zu'bi, Minister of ICT
- o Nadia al-Saeed, MoICT Secretary General
- o Mahmoud Khasawneh, MoICT CIO
- o Candide Kirk, MoICT CIO office
- o Haif Bannayan, MoICT Broadband Network PMU, Director of Finance & HR
- o Emile Cubeisy, MoICT Jordan Education Initiative Advisor
- o Roger Guichard, MoICT strategic advisor
- o Hania Abu Adas, MoICT Manager HR
- o Dr. Yousef Nusseir, NITC President
- o Fadhl Sweedan, Director Technical Services, NITC
- o Rana bin Tarif, Legal Advisor, MoICT
- o Bilal O. Abuzeid, Director Marketing Int@j
- o Ra'ed Bilbessi, CEO, Int@j
- o Mamoun Homsi, e-Government Operations Center Manager
- o Shatha Ahmad, e-Government Operations, MoICT
- o Andreas Cox, MoICT Program manager Jordan Education Initiative

- o Ed Smit, MoICT Program manager National Broadband Network
- o Andreas Sommer, Consultant Data Center, MoICT
- o Hiba Sanduqa, Quality, Risk and Communication Officer e-Government, MoICT

2.3 Acknowledgements

The consultants would like to thank Stephen Wade, Program Director of AMIR for the support and encouragement that he and his colleagues provided; Abed Shamlawi, ICTI component leader of AMIR for the warmth of his welcome and his detailed insight; Jim Barnhart, Director Economic Opportunities Office,
Jamal Al-Jabiri, Cognizant Technical Officer and colleagues at USAID for taking time to discuss the issues raised; His Excellency Dr. Fawaz Zu'bi, Minister of ICT for taking time out of his busy schedule, providing excellent direction for this work; and the many representatives of the Ministry of ICT and the NITC for their valuable insights answering our interminable questions.

2.4 Scope of work

The scope of work has been defined as follows:
- o Develop the new NITC strategy and vision that enables it to achieve its goals and objectives of being a world class technology center that can develop, implement and manage ICT programs on a national level.
- o Define and develop a communications scheme that defines the relationship between the NITC and MoICT and other entities (government and non-government)
- o Scope and define all services offered by the NITC.
- o Develop an organizational structure for the newly formed NITC that enables it to undertake its responsibilities.
- o Define and develop an administration, management and human resources strategy and methodologies to enable NITC to achieve its goals of being a world class technology center.
- o Define and develop a financial model for the NITC in relationship to its services and operation that will enable the NITC to become self sustainable also giving it the opportunity to acquire its services through a contracting mechanism.

2.5 Document Structure

Chapter three is an outline of the national context and goes into detail on the NITC Law (81) and the National ICT Strategy of the Ministry of ICT.
Chapter four deals with the propose mission, vision and key objectives of the NITC.
Chapter five describes in summary the current situation at the NITC and the MoICT.
Chapter six describes the recommended governance structure and the roles and responsibilities of the various committees and management team.
Chapter seven describes the services to be rendered by the NITC.
Chapter eight is the proposed branding strategy.
Chapter nine details the organizational design including key roles and responsibilities, numbers of full time employees and the organizational structure.
Chapter ten consists of guidelines and proposed policies for human resource management.
Chapter eleven is the recommended procurement policy.
Chapter twelve contains the financial model for the NITC.
Chapter thirteen consists of implications of this design for the current NITC Law and recommendations for adaptation.
Chapter fourteen gives initial indications of the NITC requirements regarding ICT infrastructure and office facilities.
Appendix one is an outline of the key job profiles.
Appendix two contains the financial models.
Appendix three show the documents and websites referenced.

3   Introduction

One of the spearheads of the Government of Jordan (GoJ) is to use cutting-edge information and communications technologies (ICT) to develop competitive businesses and enhance efficiencies of government. His Majesty King Abdullah II recognized the potential of ICT early in his reign and led his country's development by challenging the government to rethink itself and encouraging the private sector to get involved to shape growth. There is a strong commitment by the King and his Ministers to forge a path of economic development that emphasizes economic reform, public-private partnerships, international competitiveness, private investment and use of ICT technology.

The past few years, a number of legal and regulatory reforms have been passed, ranging from Amendments to the Telecommunications Law, The Law on the of Deployment of Information Technology Resources in Governmental Entities and the Electronic Transactions Law. Strategic partnerships have been established with governments like Singapore and with leading ICT suppliers like Cisco and Microsoft. MoICT made progress with a number of e-initiatives, but there are still a number of speed bumps that considerably slow-down the execution of the strategic agenda:

  ➢ Government IT spending is not coordinated and not linked to the National ICT Strategy, leading to over-expenditure and inconsistencies in IT tender procedures.

  ➢ There is no professional data center that can store government data, host government applications and manage the Government Intranet. This needs to be in place to ensure that the applications that are developed through the e-initiatives are maintained in a secure and reliable way.

  ➢ In general, there is a lack of IT experience in Jordan, not only within the Government, but also in the private sector. There is brain drain of IT talents to countries with a more developed IT sector.

  ➢ MoICT is tied to the recruitment process, labor conditions and HR policies of the GoJ which compare unfavorably to the private sector in all aspects. As a consequence, the e-initiatives are understaffed and employee churn is high.

  ➢ MoICT must follow the Government procurement processes where procurement cycles are unpredictable and can take over 6 months.

3.1   The NITC Law

In June 2003, The Law on the Deployment of Information Technology Resources in Governmental Entities (or NITC Law) was approved. This law enables the former NIC to manage the deployment of IT resources in Governmental entities, and to become the implementation arm for Government ICT programs. The new law defines the mandate of both MoICT and NITC. Since these mandates are the foundation of this NITC strategy, we will quote the law on these mandates.

Article 4A states the mandate of MoICT:

1. Prepare the Strategy and submit it to the Council of Ministers for approval.
2. Draw up the Plans and Programs, and submit such to the Council of Ministers for approval, which are necessary to implement the Strategy in coordination and collaboration with the Governmental Entities, provided that the Strategy includes an identification of the Governmental Entities executing it.
3. Follow up on the implementation of the Strategy, Plans and Programs.
4. Evaluate and examine the deployment of Information Technology Resources, including the manner in which such Resources are acquired, installed, provided, managed and operated.
5. Issue mandatory technical and operational standards to secure interconnection between different locations within the Governmental Entities network and the necessary operational and technical operability among the networks or information technology systems of the Governmental Entities, in accordance with the Strategy, Plans, Programs or the decisions of the Council of Ministers.
6. Issue guiding technical and operational standards pertaining to the Information Technology Resources to contribute in achieving the objectives of this Law, as it deems appropriate.
7. Represent the Kingdom in the Arab and international conferences and seminars relevant to Information Technology Resources.
8. Encourage effective participation of private sector companies and corporations in the supply, installation, operation, provision and management of Information Technology Resources to the Governmental Entities, in conformity with the enacted legislation.

Articles 8A and 8B define NITC's mandate. 8A states that:

1. Provide, on a national level, and index the main information database, and develop software pertinent to the use of an integrated national system of information.
2. Conduct studies, surveys and researches pertaining to the needs and uses by Governmental Entities of Information Technology Resources.
3. Manage and register Internet domains in the field known as (.jo) and determine fees charged thereby for the services it offers, pursuant to instructions issued by the Board for this purpose.
4. Prepare Plans and Programs to train and qualify employees of Governmental Entities on the use of Information Technology Resources.
5. Issue and distribute publications relevant to the development and uses of Information Technology Resources and all matters pertinent thereto.
6. Offer consultations in fields of Information Technology Resources, their software and standards and all matters pertinent thereto.
7. Participate in local and foreign scientific conferences, seminars, meetings, study sessions, and assemblies that are relevant to the objectives of the Center.
8. Any other functions relevant to the objectives of the Center assigned thereto by the Minister.

And Article 8B adds:

> 1. Implement the Plans and Programs assigned thereto according to the approved Strategy.
> 2. Provide, manage, operate, and maintain any of the Information Technology Resources where it is assigned to perform such according to the Strategy, Plans or Programs, or by a decision of the Minister, or upon an agreement with any of the concerned Governmental Entities, provided that the assignment or agreement is specific and in writing.
> 3. Issue the technical and operational standards referred to in Subparagraph (5) and (6) of Paragraph (A) of Article (4) of this Law, if the Minister entrusts with Center such task.

To implement this law, AMIR and MoICT started a project to define the strategy and implementation plan of the new NITC.

Concerning some aspects the Law is very broad which makes it susceptible to different interpretations. At the end of this report some recommendations will be made to make the Law more specific concerning the mandate of the NITC. In some cases proposals for law amendments will be made.

3.2   National Strategy and Vision

In June 2004, MoICT issued a National Strategic Plan (In full: "*Statement of National Strategy, related to the Information and* Communications *Technology and Postal sectors of the Jordanian economy*"). This document aims to ensure that all parties within the ICT and Post sectors are familiar with National strategic objectives, and their role in meeting those objectives, and that all stakeholders outside the sectors are aware of the responsibilities that exist for them.

For the IT sector the key objective of the National Strategy is stated as:

> To create conditions and take actions that will increase the capacity, capability and activity of the Jordanian IT sector, by a step function, to achieve necessary scale, and, thereafter, allow it to continue to be competitive in Regional and Global markets, attract and support inward investment, and, increase the efficiency of Government and the general business sector.

This strategy can be translated into four key areas of attention, each with a number of programs or initiatives by both public and private sector. The most important programs are shown in the below diagram and there are numerous others. Please note that these programs can contribute to multiple outcomes. We have aligned them with the most logical outcomes in this diagram.[2]
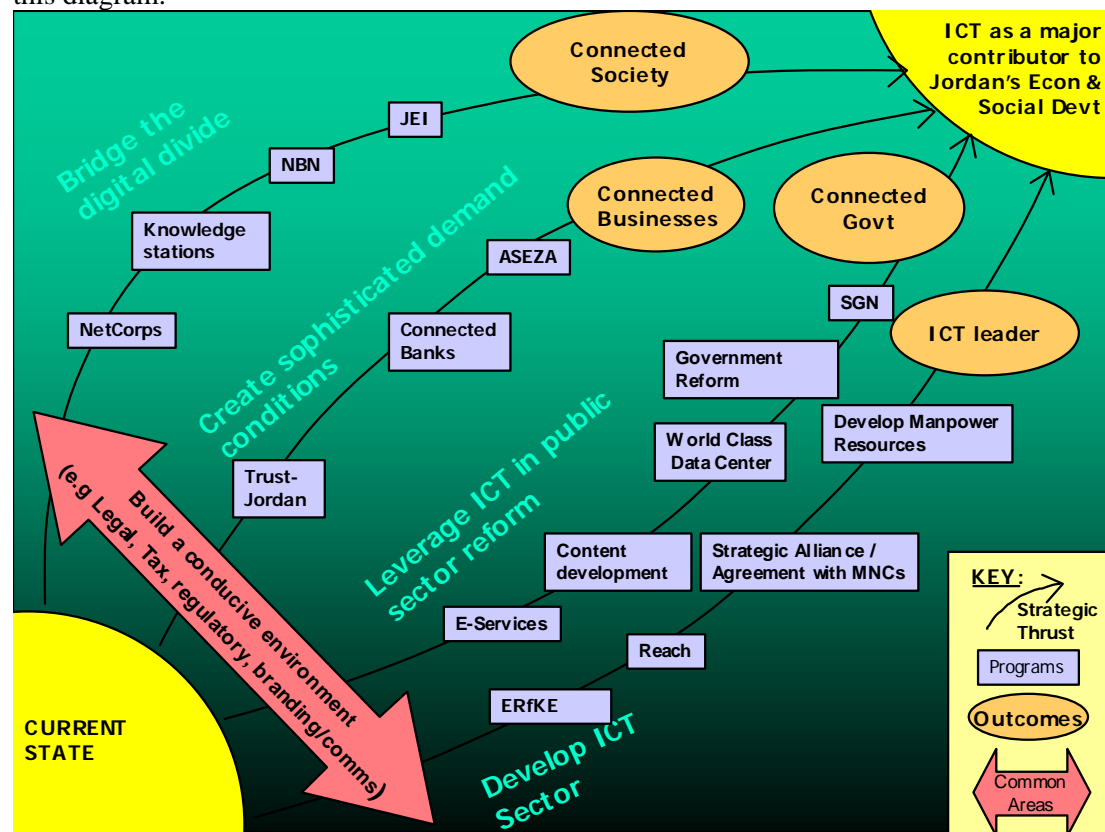
JEI = Jordan Education Initiative
NBN = National Broadband Network
ASEZA = Aqaba Special Economic Zone
SGN = Secure Government Network
MNC = Multi National Company

---

[2] Update of IDA slide.

Within the National ICT Strategy four strategic thrusts can be defined:
1. Bridging the digital divide
2. Creating sophisticated demand
3. Leveraging ICT in public sector reform
4. Building a vibrant ICT industry

Key to the NITC Strategy is to determine how the NITC can best contribute to the realization of the national strategy and to position the NITC in the field of programs and stakeholders. The National ICT Strategy can be considered as the starting point for the ICT Master Plan. The ICT Master Plan defines the projects, programs and Critical Success Factors.

3.3 MoICT Vision

A competitive Information and Communications Technology (ICT) sector that is given the widest possible scope to enhance the quality of life of citizens and contribute to the socio-economic development of the nation.

3.4 MoICT Mission

The mission of the MoICT is to achieve its vision by providing the following support to stakeholders:
Creating the legal, institutional and commercial environment for a market that rewards innovation and yields products and services at affordable prices to consumers;
Strengthening and championing the competitive position of the ICT sector domestically, regionally and internationally;
Providing an example of good governance in its drive for efficiency, social inclusion and human resource development;
Ensuring that ICT products and services are exploited by Government entities in the most efficient way possible, consistent with best practices and free market principles.

4   Vision & Mission NITC

4.1   Vision

Deploy ICT as a major contributor to Jordan's economic and social development through creating a connected society, connected businesses and connected government.

4.2   Mission

The mission of the NITC is to achieve its vision by providing the following support to stakeholders:

➢ Put the strategies, policies and plans of the Ministry of ICT, related to government use of ICT, into action to enhance, stimulate and accelerate the use of IT in Jordan.
➢ Manage the Government Operations Center, offering secure and reliable facilities to meet high demands of government customers.
➢ As government become a "launching customer" for innovative ICT services and stimulate the development of Jordan's private ICT sector.
➢ Create a culture of ICT excellence and be an attractive employer for national and international ICT talents by offering a challenging working environment at the forefront of ICT development.
➢ Become the central ICT authority and Chief Technology Office for government entities setting ICT standards and guidelines, ensuring the correct application of these guidelines and linking ICT spending to the ICT Master Plan.

4.3   Prerequisites

The NITC must have the following characteristics to achieve its strategic objectives:

➢ **Strong result-driven management** with a clear vision for the NITC and commitment to major change
➢ **Buy in** from government entities to play its key role
➢ **The ability** to attract and to keep quality professionals
➢ **Independence** in setting its own standards and regulations with regard to the hiring of personnel, remuneration and procurement operating within the framework set by the NITC law

4.4   Critical Success Factors and Key Performance Indicators

The new NITC strategy is founded on four major pillars or key business areas:

1. Implementation arm: National Programs
2. The Government ICT Government Ops Center
3. The Government Chief Technology Office (CTO)
4. e-Government

The NITC's high-level objectives can be defined as follows:

➢ To create a strong, independent, efficient and effective implementation arm for ICT related projects.
➢ To offer secure and reliable ICT ops center facilities managing government systems, applications and networks.
➢ To set ICT standard and guidelines for government entities increasing quality and efficiency of IT operations and service and linking ICT spending to the National ICT Strategy and ICT Master Plan.

   ➢ Develop ICT capabilities of government employees and contribute to the Jordanian citizens and the Jordan private sector.

These objectives can be translated into Critical Success Factors (CSFs) which are qualitative goals based on the vision and mission and viewed from four perspectives. To monitor the progress of the Critical Success Factors measurable indicators are used, the Key Performance Indicators (KPIs).

The above described method which is used to assess an organization's performance is the Balanced Scorecard method. The four perspectives are defined below:

1. The Learning organization perspective
This perspective includes employee training and cultural attitudes related to both individual and organizational innovation. In a knowledge-based organization such as the NITC, people are the main resource.

2. The internal perspective
This perspective refers to internal business processes. Metrics based on this perspective allow the managers to know how well their business is running, and whether its products and services conform to customer needs.

3. Beneficiaries perspective
Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators: if customers and key project stakeholders are not satisfied, they will eventually find other means to meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good.

4. Financial perspective
Timely and accurate financial data are required to manage the short and long term financial performance of the organization. The financial data include risk assessment and cost-benefit data for the NITC.

The Key Performance Indicators must have the following characteristics: they must reflect the organization's Critical Success Factors, they must be key to its success and they must be quantifiable.

For the NITC the following CSFs and KPIs are defined:

Critical Success Factors

Learning Organization

Set up an internal education and training program and budget

Attract, develop and retain ICT professionals

Set up a curricula for government IT staff and government ICT users

Key Performance Indicators

Learning Organization

% of employees that have passed exams arranged through NITC

% reduction in NITC employee turnover

% moves to senior positions (non-management)

% senior staff

*One KPI applies to two CFS's: internal and financial.

Critical Success Factors

Internal

Introduce process management

Standardize government ICT management

Implement and anchor project management*

Implement and anchor portfolio management

Increase interoperability of ICT equipment

Procure and hire independently and fast

Key Performance Indicators

Internal

% of processes implemented

% projects implemented within specified timeframe and budget and with the expected results*

% of projects managed through fixed decision making phases

% of staff hired within a specified timeframe.

% new services implemented

% of procurement contracts closed within a specified timeframe.

% reduction of recovery time

*One KPI applies to two CFS's: internal and financial.

Critical Success Factors

Beneficiaries

Increase customer satisfaction (G2G)

Stimulate public/ private partnerships

Introduce Service Level management

Development ICT competencies of government IT departments

Development ICT competencies of citizens and businesses

Ensure reliable, qualitative and secure services

Key Performance Indicators

Beneficiaries

% decrease in number of complaints to NITC concerning services rendered

% increase in marks from customer satisfaction surveys

% increase in service offerings

% increase in availability of certain services

% increase in public/private partnerships

% IT staff trained through NITC

% services managed according to service levels

*One KPI applies to two CFS's: internal and financial.

Critical Success Factors

Financial

Ensure return on project investments*

Stimulate Jordan ICT sector growth

Enhance financial management directly relating services to revenues

Key Performance Indicators

Financial

% of projects completed within budget and with the expected results*

% contracts awarded to Jordanian ICT companies

% accuracy in financial planning

% increase of government contracts awarded to the ICT sector

% programs initiated in cooperation with the ICT sector

*One KPI applies to two CFS's: internal and financial.

5   Current Situation

At present the NITC plays a supporting and complimentary role to programs if thus requested. Current NITC activities consist of the following:

 ➢ An ISP for government entities offering internet access and hosting services
 ➢ Domain name registration .jo.
 ➢ Operations center for the e-Government program and the Secure Government Network (SGN)
 ➢ Management of Knowledge Stations
 ➢ Coordination of training for government employees (e.g. ICDL courses)
 ➢ Management of the National Information System (NIS)

The NITC budget is directly allocated from the Ministry of Finance. The only services that are charged are the domain name registration and a minimum fee (not cost based) for internet access.

52 employees work at the center premises. Approximately 90 Knowledge Station coordinators work throughout the country.

The NITC is a separate government entity giving it the legal status whereby it can hire people without government approval. The NITC has its own special procurement committee with one representative from the General Supplies Directorate.
According to the NIC Audit by Abdullah S. Rifai (NIC Audit Jordan e-Government program; An evaluation of Internet Service Quality by, June 11, 2003.) the current NITC is facing the following issues: 'budgetary constraints, Government red tape, lack of continuity, employee turnover, lack of liberty, autonomy and resources to compete with the private sector, lack of processes and procedures'.

The future NITC will perform many more activities than at present as many tasks currently executed by the MoICT will be transferred to the NITC. In addition the quality of service of current activities must increase immensely.

All collected information regarding the NITC supports the conclusion that the present NITC is not equipped to perform the new scope of activities. Thus changing the NITC implies a major organizational restructuring of all aspects.

5.1   Data Center and network facilities

Currently there is no professional ICT Service Center that can store government data, host government applications and manage Government networks. As a consequence, all government entities that need these kinds of services are arranging their own facilities. This has two main effects:

Government Ops Centers are set up on an ad hoc basis, catering primarily for immediate requirements. Design aspects like scalability, security, resilience and reliability get insufficient attention. In addition, the operational activities at the Government Ops Center are not executed according to the required professional standards.
Setting up ops centers for each government entity separately takes far more investments and qualified ICT staff than a shared service center would do. Both these resources are scarce.

Therefore one of the pillars of NITC's strategy is to manage a shared government ops center, offering secure and reliable facilities to meet the high demands of government customers. This has the following advantages[3]:

- o The common procedures will cover security, operating, audit, backup, media keeping, disaster recovery, back office.
- o Common standards for cabling, labeling, documentation, reporting, systems architecture, configuration, and systems administration.
- o Part of the move to one common Ops Center also makes the implementation of one development and test laboratory easier and more controlled ensuring that new configurations are only rolled out to the infrastructure after adequate testing.
- o External Consulting can be shared between all government ministries and entities.
- o One common call center can be shared.
- o Vendors and suppliers contracts can be managed centrally, extending to maintenance contracts. This will give cost savings in negotiating contracts and with a larger buying power should attract greater discounts.
- o There will be a single human resource facility covering both recruitment and staff development.
- o Potentially outsourcing of a single centre will be easier to negotiate, if that becomes an objective in the future.

For each of the Government Operations Center services, it will be determined whether government entities are obliged to use these services. In case service usage is not mandatory, NITC needs to persuade the Government entities by an attractive service proposition.

5.2 Project management

At present an independent implementation arm managing the ICT programs and initiatives is non-existent. The major programs currently running are managed within the ministry itself. Each initiative or project has set up its own Project Management Office and there is no structured coherence or cooperation between projects. In addition although the MoICT is in the process of setting up a standard project management method this is yet in the early stages of development.

The three major programs being managed at the MoICT are:

- o The Jordanian Education Initiative: JEI as part of the Education Reform for a Knowledge Economy Program
- o The National Broadband Network
- o e-Government

Knowledge Stations which is another significant ICT-related initiative is already managed by the NITC.

The three major bottlenecks jeopardizing current project progress are:

- o The MoICT is tied to the government recruitment process, labor conditions and HR policies of the GoJ, which compare unfavorably to the private sector in all aspects. As a consequence, the e-initiatives are understaffed and employee churn is high.
- o The MoICT must follow the Government procurement processes where procurement cycles are unpredictable and can take over 6 months.

---

[3] Advantages are quoted from Report on Consolidation of Government Ops Centers, Disaster Recovery Approach and Future Strategy page 13,14.

      o   No one person is held accountable for project progress and results

Managing projects within the Ministry involves tedious bureaucratic procurement and hiring procedures. Salaries are low and are no comparison to salaries earned in the private sector even though the MoICT has gained some freedom in this respect. Nevertheless most of the staff although with good, internationally recognized degrees are young and lack the experience to vigorously and forcefully push for results.

Having the major number of ICT related projects managed by one entity has many obvious advantages for the MoICT concerning reporting standardization, project prioritization, speed of implementation, efficiency and effectiveness.

Managing projects through a separate government entity such as the NITC would remove some of these barriers if it were allowed to hire and procure fully independently.

5.3   ICT Deployment

Although it is a task of the current NITC to prepare ICT standards, guidelines and procedures for government entities these services could be more enhanced in order for the NITC to become *the* ICT authority for government entities: an organization that is highly respected for its quality standards and has the mandate to enforce certain standards on its customers including procurement standards for ICT equipment and applications.

The training services the NITC currently offers are arranged on an ad hoc basis. To push standardization and uniformity forward, training services should be initiated by the NITC and arranged on the regular basis.

ICT standardization and uniformity increases effectiveness, efficiency and security of all ICT services used by government.

Another current issue is that there is no overview of ICT spending or whether this spending is contributing to the National ICT Strategy.

5.4   SWOT

Below figure is a depiction of the NITC internal strengths and weaknesses and its external opportunities and threats.

| Strengths	Weaknesses
Well educated, skilled and experienced staff Useful strategic partnerships Full administrative independence from government	Lack of drive to change High staff churn Reputation of NITC Inability to optimize ICT budget
Opportunities	**Threats**
Visionary King Desire to leverage on ICT for social, economic and public sector reforms Mandate of NITC Law 81 creates window of opportunity Well-educated population Political stability within Jordan Increasing citizens expectations	Inexperienced and young workforce Lack of implementation power Brain-drain to other countries due to low salaries Increasing citizens expectations Regional instability

Figure 1

6   Governance Structure

The NITC operates in a complex environment with various stakeholders. The below diagram shows the main relationships between the key stakeholders. Different groups of stakeholders are indicated by different colors. We will now discuss the roles and responsibilities for these groups of stakeholders.
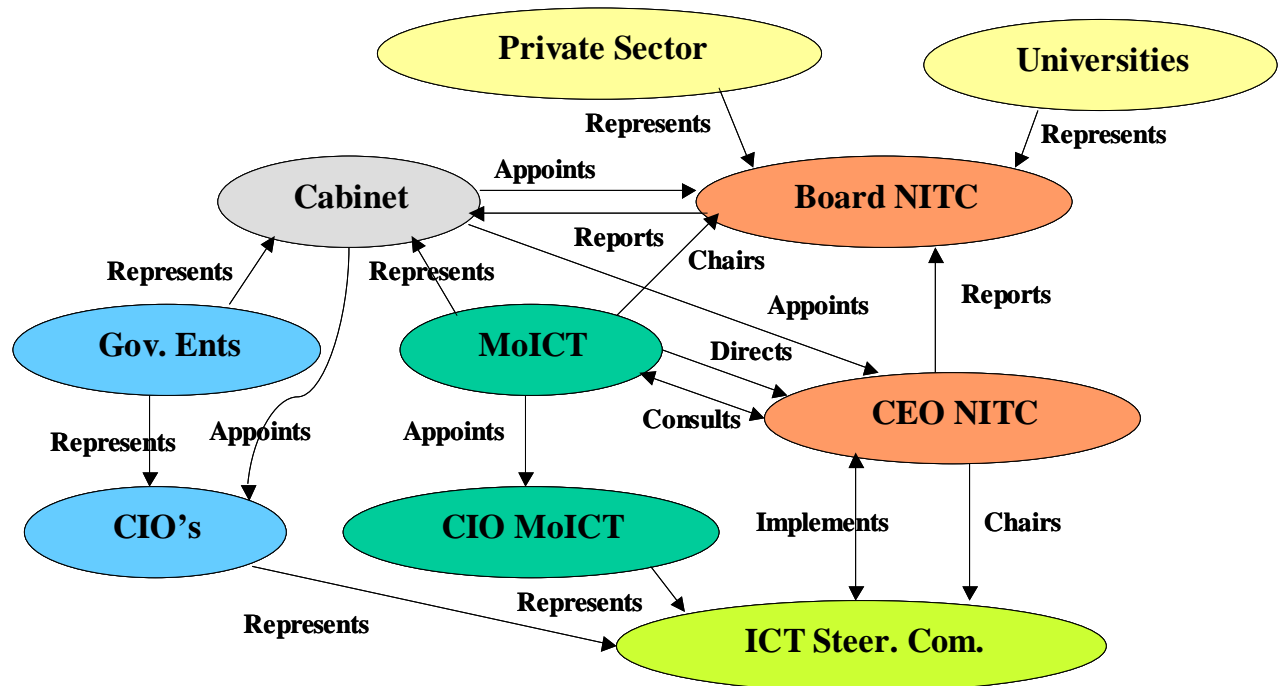
6.1 NITC Board and Management

The NITC Law states that ..'the Center shall be managed and its affairs supervised by a board known as the Board of Directors of the National Information Technology Center, under the chairmanship of the Minister of ICT and the membership of the following:

1. The Secretary General of the Ministry of ICT
2. The Secretary General of the Ministry of Finance
3. The Director (CEO of the NITC)
4. A director (key representative) from the MoICT
5. 4 members representing governmental entities involved in the work of the center…'

We believe that the NITC Board should have a broad perspective and therefore propose that a representative from the private sector (e.g. President of Int@j) and a representative from the academic world are added as Board members.

The Board members will be appointed by the Cabinet and the Board reports to the Cabinet. The NITC Law states the following powers and duties for the Board:

a) To set the general policy of the NITC.
b) To specify plans and programs considered necessary by Management to implement the general policy.
c) To specify the organization chart, job structures and position descriptions of the NITC, on the recommendation of the Management.
d) To approve agreements and contracts established between the NITC and other entities, and to delegate to the Chairman or CEO the authority to sign on its behalf.
e) To secure the human and financial resources to the NITC, and to organize its investments and put them to the best use.
f) To receive grants and donations provided that they are approved by the Cabinet, in the event they are from non-Jordanian sources.
g) To prepare draft amendment of the NITC Law and prepare regulations related to the duties of the NITC, and to submit them to the Council of Ministers for their approval.
h) To prepare the yearly budget of the NITC and submit it to the Council of Ministers for approval.
i) To discuss the Annual Report and financial statements of the NITC and submit them to the Council of ministers for approval.
j) To appoint the legal auditor of the accounts and to determine its fees.
k) To form the committees necessary to carrying out its duties.
l) To perform any other duty related to the goals of the center as may be assigned by the Chairman.

The NITC management team is headed by the CEO and consists of the CEO and the managers of the key departments:

- Director of National Programs
- Government Ops Center manager
- The Chief Technology Officer
- Director of Manpower Development
- Chief Financial Officer
- Director of e-Government
- The Secretary

The CEO is appointed by the Cabinet. The other Management Team members are appointed by the CEO, with endorsement by the Board.

The NITC management team is responsible for the effective and efficient operations of the various NITC departments, whose tasks are described in detail in this report. The basis for all NITC activities is the National ICT Strategy, which is defined by MoICT and approved by the Cabinet. NITC's main duty is to execute this strategy and will therefore elaborate, develop, plan and manage the ICT programs that are required to make the National ICT Strategy happen. This correlated overview of programs is described in the annual ICT Master plan, which has to be approved by the Board prior to submission to the Council of Ministers. Annual ICT budgeting for Government Entities as well as the NITC budget will be directly tied to the ICT Master Plan.

To ensure that NITC Management changes do not immediately entail a change in NITC's vision, mission and services, we propose that this vision and mission be transformed into a set of binding instructions and regulations which must be approved by the Cabinet. Adherence of the NITC to these binding instructions is audited by a 3rd party annually.

6.2   Cabinet

The Cabinet consists of the Ministers, each representing their own Government Entity, and is headed by the Prime Minister. The Cabinet appoints the NITC Board and NITC's CEO and approves NITC's annual budget. The National ICT Strategy- defined by MoICT and the foundation for NITC's activities- is also approved by the Cabinet. The NITC Board reports to the Cabinet.

6.3   Ministry of ICT

The Minister of ICT is the chairman of the NITC Board. MoICT directs the activities of NITC through its ICT policies and its National ICT Strategy. In addition, MoICT is a Government Entity and as such has the same mandate and responsibilities as other Government Entities.

The role of the MoICT will diminish as the NITC is implemented. The MoICT will be responsible for the National ICT Strategy and leave elaboration, development and planning of the execution of this strategy to the NITC.

6.4   Other Government Entities

The Other Government Entities are the primary clients of NITC and as such its most important stakeholders. The Ministers (as heads of their Government Entities) represent their Government Entity in the Cabinet and hence oversee the NITC Board.

As the Ministers are political appointees who stay in office for a limited period of time, NITC needs more stable counterparts who are responsible and accountable for ICT deployment within their Government Entity. Therefore we propose to appoint CIO's who represent Government Entities on ICT-related issues and champion ICT implementations within their entity. For practical reasons, some Ministries- like Ministry of Education- will have their own dedicated CIO, while other CIO's will represent several Government Entities (sectors). The CIO's will be appointed by the Government Entities, while NITC will judge whether the proposed candidates have the right background. These CIOs will act as project owners for the ICT related programs within their government entities.

The main responsibilities of the CIO's will be:
- Be responsible and accountable for ICT deployment and the use of ICT budget within their Government Entity.

- Take the Client role for ICT programs as agreed upon in the ICT Master Plan, arranging sufficient resources (budget and staff), promoting program objectives and facilitating program implementation.
- Represent their Government Entity in the ICT Steering Committee, addressing the ICT issues of the day and implementing the agreed upon standards and policies within their entity.

6.5 The ICT Steering Committee

The ICT Steering Committee is comprised of the CIO's of the Government Entities, chaired by NITC's CEO. It is the forum in which the development and implementation of the ICT Master Plan is discussed. Typical topics that will be on the agenda of the ICT Steering Committee include:

- Co-develop the ICT Master Plan with NITC, discussing program ownership, resourcing and prioritization.
- Monitor progress of ICT Master Plan.
- Discuss policies and standards proposed by NITC and monitor implementation of agreed upon policies and standards.
- Raise and discuss ICT issues with cross-governmental impact, setting the agenda for NITC's policy making.
- Monitoring the ICT budgeting process.

The composition of this committee will vary according to the topics that are on the agenda and the specific programs that need a decision at the time, but in principle the following members will attend:

- CEO NITC
- Director of National Programs NITC
- Director of e-Government NITC
- Secretary of the NITC
- Chief Financial Officer NITC
- Chief Technology Officer NITC
- The CIO's of the government entities, including MoICT

It is essential to set up and adhere to a strict governance structure for the ICT Steering Committee. The agenda with key decisions points and relevant background material must be distributed at least three full days prior to the meeting. Each member must be prepared to such an extent that they are able to make a sound decision.

6.6 Private sector and Universities

The private sector and the academic world are important stakeholders of the NITC, since the development of the Jordan IT sector and of Jordan's ICT skills are amongst NITC's key objectives. Therefore we propose that the private sector and the Universities are represented in NITC's board. This will broaden the board's perspective and will facilitate a structured interaction between NITC and these key stakeholders, so all will be able to prepare themselves well in advance for each other's needs.

6.7 Consultation structure

As the NITC is the implementation arm of MoICT's strategies and policies, the MoICT should be regularly updated and informed concerning the NITC's core activities. Regular board meetings are not enough to ensure this involvement. We propose to install regular (weekly) meetings at different levels:

1. Between the NITC CEO and the Minister to discuss the daily issues.
2. Between the NITC Secretary and the MoICT policy makers to discuss effective implementation of MoICT policies and strategies.

The ICT Steering Committee should meet once every other week.

7   Services

NITC's core business activities consist of four key business areas. These are:
1.   Implementation arm: National Programs
2.   The Government ICT Service Center: Government Ops Center
3.   The Government Chief Technology Office (CTO)
4.   e-Government

These pillars each contain a number of *services* that provide value to NITC's customers. This value is produced through a number of *tasks* that must be executed to produce the desired output.
Finally, a *job profile* is a cluster of correlated tasks that can be executed by a person with certain specified qualifications. This hierarchy of terminology will be used throughout this document.

7.1   National Programs

7.1.1   Scope
NITC is the implementation arm of ICT National Programs. NITC will use the high-level National ICT Strategy of the MoICT as a framework to develop an ICT Master plan with a roadmap of programs. This ICT Master Plan is discussed in the ICT Steering Committee and for each program a CIO of the relevant government entity will become owner.
NITC's involvement varies from elaborating on an idea to managing an implementation to monitoring an implementation managed by a third party.
The NITC prepares and manages the implementation of the projects. By law it is encouraged to outsource the actual execution to the private sector, NGOs or universities.
The MoICT focuses on ICT policy-making and strategy formulation; development, implementation and management of ICT programs is the responsibility of NITC's National Program's arm.
The NITC National Programs arm uses a uniform project portfolio management method to increase efficiency and effectiveness by centralizing the management of ICT projects and minimizing overlap in project scope and objectives.
The NITC uses a uniform project management method to capture, share and apply the know how of experts. In addition lessons from past projects are applied to continuously improve performance.
Services rendered by the NITC National Programs arm will be twofold:

1.   Project portfolio management services
2.   Project management services

At present the e-Government program is drafting a project management standard based on the PMI (Project Management Institute) project management method whereby the projects are divided into four fixed phases. This method, if applied properly and incorporated strongly into the organization, makes portfolio and project management transparent and effective.

To make effective use of existing definitions, tools, methods and templates this recommendation is based on the draft PMI method and adapted where deemed necessary.

7.1.2   Guiding principles of the National Programs arm
Flexibility - to be able to respond to (policy) changes and new requests.
Speed and efficiency –the National Programs arm works in a fast and efficient manner that produces results for the project stakeholders. The NITC must not become a bottleneck in the project management process; the NITC is an accelerator.

Transparency – the working methods and decision-making procedures at the NITC must be standardized and accessible to employees, project owners and key stakeholders. Progress reporting and anchored escalation procedures are prerequisites for successful functioning of the NITC.

Discipline – a culture of discipline to work according to set standards, procedures and methods must prevail at all levels of the organization.

Quality – the NITC is a high quality service provider.

Commitment – from the key stakeholders

7.1.3 Objectives of the National Programs arm

- ➢ To increase speed, efficiency and effectiveness of project implementation by a centralized organ managing ICT programs within the framework of the ICT Master Plan.
- ➢ To minimize overlap in project scope, objectives and resource claim.
- ➢ To capture, share and apply experience and know how of experts and develop a learning and professional organization
- ➢ To continuously improve performance by applying lessons learned from past projects.
- ➢ To attract experienced professionals, offering a good salary and a challenging working environment.

7.1.4 Portfolio management

Professional project portfolio management encompasses an approach to prioritization, planning and control of the project portfolio leading to transparency concerning project results and objectives and to optimal utilization of scarce resources.

Offering portfolio management services gives insight into all projects in one overview.

Project portfolio management is based on two principles:

1. Prioritizing based on values and risks
2. Decision-making based on predefined project phasing and fixed output per phase.

7.1.4.1   Portfolio management characteristics

Prioritization and control: Information Economics (IE)

To prioritize amongst the programs and projects it is essential to have a clear picture of costs and benefits of these projects. When a priority list has been made an organization doesn't want to pay too much but also doesn't want to be unpleasantly surprised by overspending at a late stage. The investment must be well estimated and controlled.

In the end the ministries want to know what effect an investment has had and how is has contributed to the objectives of the National ICT Strategy.

Using the insights of Information Economics, investments are controlled and the right priorities are set.

What is Information Economics (IE)?

IE is a method that enables an organization to prioritize its project portfolio by means of objective criteria. It starts with rating projects in a scorecard and subsequently categorizing these in a value risk grid ranging from high importance to refusal.

The ICT Steering Committee decides which criteria are important when prioritizing projects. These criteria are not only financial but also reflect the contribution to objectives. The next step is to value all projects based on these preset criteria.
The output is an overview (Scorecard) of projects placed according to the method.

Proposed criteria for the NITC project portfolio are:
- ➢ Value for the key project stakeholders
- ➢ Financial return
- ➢ Strategic fit to the National ICT Strategy
- ➢ Infrastructure and IT architecture fit
- ➢ Availability of resources

Proposed risks used in the scorecard are:
- ➢ Organizational risk
- ➢ Specification insecurity
- ➢ Technological insecurity

IE gives insight into potential projects, projects being executed and projects that have been delivered at any given time. Of all projects the added value and risk is known. The ICT Steering Committee decides what is most important in relationship to the National ICT Strategy and the ICT Master plan. Figure 2 shows the control cycle within the IE method.
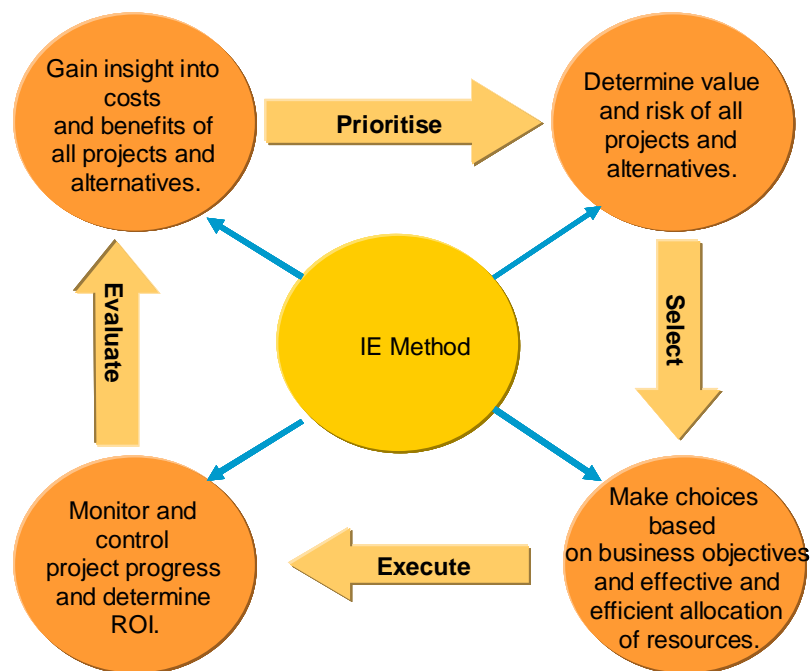
Figure 2

Project phasing and decision-making

As stated earlier, this recommendation is based on the four-phase PMI method now being drafted within the e-Government program. Please note that according to the type of project, phases can be added or skipped. Figure 3 shows the project phases with decision points, the main milestones of a project.

Each of the phases is concluded with a decision document with which the ICT Steering Committee gives a GO or NO GO for phase transfer.

The ICT Steering Committee monitors the overall planning, approves transfers to a next phase based on standardized decision documents and makes decisions regarding priorities within the project portfolio.
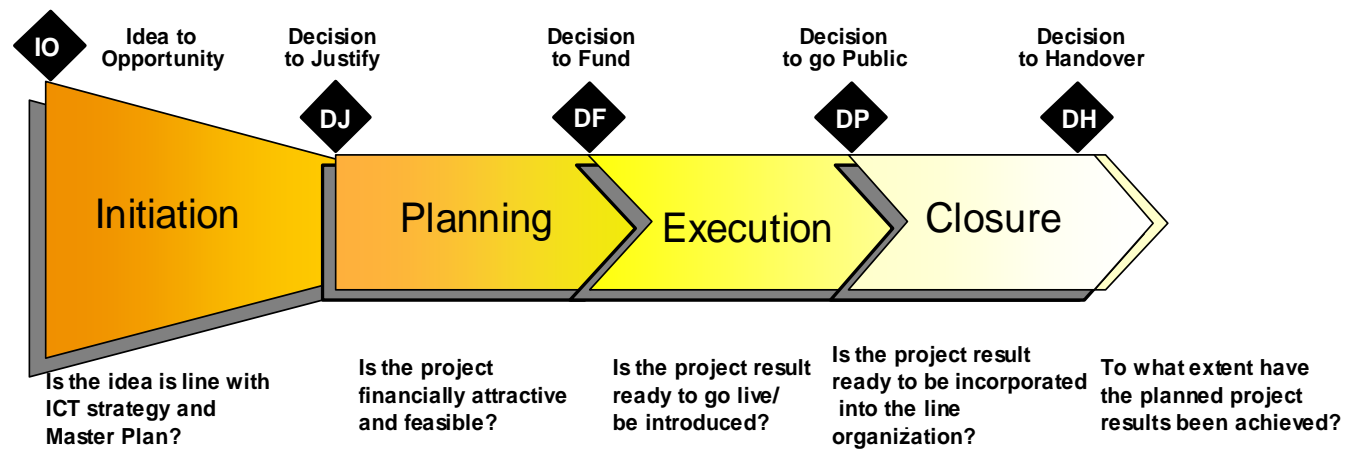
Figure 3

Phases omitted here are the design and build phases with their respective decision-making milestones. These phases are incorporated within the execution phase and could be added for large projects where detailed estimates of necessary resources can't be made for the whole phase of execution.
In general the above phasing should give the project owners sufficient control over project resources and prioritization and good insight into project results and objectives.

The decision making process managed by the project manager is as follows:

Initiation: the initial outline of an idea whereby the attractiveness and feasibility of an idea is evaluated.
During this phase the following questions are addressed in close consultation with the project stakeholders:
  ➢ Is the project idea in line with the National ICT Strategy and with the ICT Master Plan.
  ➢ What are the high-level project objectives, deliverables and scope?
  ➢ Is there a relationship with existing projects and if so what is this relationship?
  ➢ Which departments and what type of partners (NGOs, Universities, R&D institutions, private businesses) should be involved?
  ➢ What are the issues to be addressed/ solved?
  ➢ What are the alternatives to solving these issues?
  ➢ What resources (money and staffing) does the project need for the planning phase (10% accuracy)?
  ➢ Who will be the members of the project steering committee?
  ➢ Who will be the project owner?
  ➢ What are the estimated project cost, resource requirements and time span (25% accuracy)?

This phase is concluded with a Decision to Justify by the ICT Steering Committee.

Planning: in this phase a detailed investment proposal is prepared. Based on this proposal the project steering committee decides whether the project is to be continued and whether the request for funding be submitted to the ICT Steering committee for approval.
This phase is concluded with a Decision to Fund by the ICT Steering Committee.

Execution: here actual implementation starts; contracts with vendors are signed and full swing project operations are initiated.
This phase is concluded with a Decision to go Public by the ICT Steering Committee.

Closure: at this point the project is at its end; the project team is dissolved the project documents are archived and the project owner (the CIO of the corresponding Government entities) and the key project stakeholders sign the Formal Acceptance memo.
This phase is concluded with a Decision to Handover by the ICT Steering Committee.

Decisions concerning project progress (Go/ No Go decisions) take place during the ICT Steering Committee meeting whereby the project portfolio is discussed. These meetings take place on set dates throughout the year and ensure a fixed decision-making rhythm called the 'heartbeat'. To all concerned it is then clear when the output per phase should be delivered and at which moments the decision-making takes place.
By means of this fixed heartbeat, prioritizing amongst projects is easier and a clear overview is given of the status of the project portfolio.

The purpose of the ICT Steering Committee meeting is management of the project portfolio (progress, finances, resources etc.), prioritizing amongst projects and terminating projects that are not sufficiently contributing to the National Strategy. In addition correlations and coherences between projects, project objectives and project results are reviewed and alignment with the ICT Master Plan is monitored.

The ICT Steering Committee is not concerned with details of projects. This is a matter for the project manager and his/ her assigned project steering committee.

The project steering committee is assigned during the Initiation phase of a project and is responsible for project progress and effective achievement of the predefined project milestones.

7.1.5   Project management

The NITC National Programs arm is to become the implementation arm for ICT related initiatives that are defined as projects and programs.

A project always has a start and end date, is of such complexity it cannot be handled by day-to-day operations (non-standard, unique) and has a clearly defined result. A program is a set of interdependent projects.

Essential for defining project objectives and results is that these results adhere to the rules of SMART:

Simple/ specific: is this objective simple enough so that all understand it?
Measurable: when is the project goal achieved?
Agreeable: does everybody agree with this project goal?
Realistic: is the project goal feasible?
Time-bound: what is to be realized and when?

The project management services rendered include:

  ➢ Managing project budget, organization, information, time and quality
  ➢ Project and milestone planning

➢ Communication planning
➢ Project human resource planning
➢ Risk management
➢ Progress reporting
➢ Change request management
➢ Procurement and contract management
➢ Partner management
➢ Escalation management
➢ Development and elaboration of ICT initiatives

7.1.5.1 *Project management procedures*

All project managers will work according to the same project management method using the same templates and following the same procedures.
The project phasing as discussed in the previous chapter is an essential guideline for the management of projects. The project manager is the one responsible for the deliverables at the end of each phase.

Initiation phase

This phase, whereby a project manager and business analyst work closely with project beneficiaries, results in the Project Charter and depicts the "What" of the project. The project charter has to be signed by the project owner and approved by the project steering committee prior to being submitted to the ICT Steering Committee.
The ICT Steering Committee closes this initiation phase with the Decision to Justify.

Planning phase

During this phase a plan is drafted for carrying out the project that documents the schedule of all the service delivery and project management activities, provides information to direct the efforts of the project team, and provides a baseline against which progress and change can be measured.
This plan combined with the Project Charter results in the Integrated Project Plan. See Figure 4 for all steps taken to draw up an Integrated Project Plan.

WHAT

Understand client needs and decide what to do

HOW

Decide how to do it

1 Agree project objectives	2 Define milestones	3 Assign high level responsibilities	4 Define project activities	5 Resource and schedule the custom plan	Integrated Project Plan
What is to be achieved?	What are the intermediate 'states' to reach the project objectives? At what target dates?	Who needs to be involved and how?	How will the project milestones be achieved?	Who will do what when with what effort?	

Figure 4

In addition to the project plan a quantitative and qualitative business case is made with detailed cost and benefits of the project. Based on this, the Decision-making committee closes this phase with the Decision to Fund.

Services rendered to the project stakeholders during this phase are a risk analysis, negotiations with partners, communication planning and resource and activity planning (Work breakdown and Organizational breakdown).

Execution phase

The execution phase starts with a kick off meeting with the project team and the project steering committee whereby roles and responsibilities are assigned and the project plan is presented. From here project execution starts controlled by a detailed milestone planning.

The major project milestones discussed in paragraph 7.1.4 ICT Steering Committee. These are not the only milestones used to manage a project.
Milestones are markers on the road to the final objective. They are progress checks to assure that the project is on course to its final objective. The milestone states when a certain set of tasks has been achieved.
During the course of the whole project the project manager reports achieved milestones to the assigned project steering committee.

Project closure

During this phase the project results are handed over to the project owner, the CIO of the represented government entity. Also see chapter 6.4 on the role of the CIO.
It is essential to plan this phase carefully to ensure real acceptance, anchorage and embedding of the results into the (new) organization. Special attention here must be given to communication.

7.2   Government Ops Center

The Government Ops Center which can consist of multiple facilities provides services to government entities. These services can be divided into two categories:

Network Services
The Secure Government Network (SGN) is a government-wide network providing a controlled, secure and high-throughput service. All government entities connect to this service and SGN is the sole provider of connectivity between departments. To manage the SGN, NITC will operate a Network Government Ops Center (NOC) that closely monitors network performance and bandwidth utilization. Connectivity to the Internet is via the SGN. In order to meet the required security standards and achieve economy of scale benefits, connection via SGN is the sole source of Internet connectivity for government entities. The National Broadband Network (NBN) that connects Jordan's schools and universities will also be managed via the NOC. The NITC's current NOC will be merged with the SGN NOC.

Data Center Services
Data centers are constructed specifically for large-scale data storage and information technology processing needed to operate government IT applications, email services and Web sites. They are designed to minimize hazards from electrical power failure, fire, water damage, acts of nature, and unauthorized access. Data is backed up regularly and the data center is provided with a mirrored fail-over facility that is able to take control of the government systems in the event of a disaster. The secure data centers are provided with high speed, dual connectivity communications links to the SGN, Internet, and fail-over facility.

The specific services and services within each category will be specified later in this chapter.

7.2.1   Service Objectives

For the Government Ops Center, we have derived the following objectives:
- ➢ To reduce costs by leveraging a common infrastructure across multiple applications and data content. This will drive down the need for infrastructure to support individual applications. This will in turn drive down the cost to deliver these capabilities.
- ➢ To increase quality of service. A single release-management infrastructure, with a common set of processes, procedures and tools, creates a more stable environment.
- ➢ To consolidate resources and skill sets. Concentrating the required competencies in one team, will reduce the cost of hiring, training and keeping scarce qualified IT staff.
- ➢ To enhance security. Using a shared infrastructure with common procedures across the applications and associated data will provide the ability to maintain a single government security policy.
- ➢ To decrease time to market by enabling government entities to introduce their information and services to their users in a faster manner, making use of the already existing services offered by the Government Ops Center.
- ➢ To increase compatibility. The use of common platforms, procedures and tools makes integration of new applications easier and also provides excellent scalability.

7.2.2   Network Services

Government Ops Center's Network Services are described in the following sections.

Secure Government Network

The Secure Government Network (SGN) is the government Intranet, providing a controlled, secure and high-throughput service. Connection to the SGN is mandatory for all government entities and SGN will be the sole provider of connectivity between departments. Existing point-to-point connections between departments will migrate to the SGN as soon as practically possible.

The SGN will offer a range of bandwidth capacities with easy upgrades when required. Security is key within the SGN and as such two levels of security will be incorporated. The first is regarding actual physical connectivity. This will be secured through the use of certified firewall technology. The second will be through the use of Virtual Private Network (VPN) connections with IPSec encryption. The firewall and VPN infrastructure will be centrally managed with full auditing of the security logs.

Network Management

Government Ops Center will provide network management services from its Network Government Ops Center (NOC). At the NOC the government ICT networks are supervised, monitored and maintained. The NOC is the focal point for network troubleshooting, software distribution and updating, router and domain name management, performance monitoring, security management and co-ordination with affiliated networks.

Internet Connectivity

Government entities will connect to the Internet via the SGN. Government Ops Center will offer a range of download and upload bandwidth speeds. Bandwidth usage will be closely monitored such that apportionment of the available bandwidth shall be enacted on an entity-by-entity basis so as to optimize bandwidth usage. This connection will become the sole source of Internet connectivity for government entities.

Email

Government Ops Center will provide email services to all government entities. Each entity will be able to maintain their own identity by providing naming conventions to allow people to easily distinguish individuals in different departments, as well as allow ease of addressing of those departments (e.g. <name>@moe.gov.jo). For outside-the-office use, there will also be a web mail service.

Service Level Agreements

Government Ops Center will define the Quality of Service (QoS) of its Network Services in a Service Level Agreement (SLA). We propose that this SLA will contain Government Ops Center's commitment to the following performance items:

Service Availability: guarantees the customer a specified uptime for his services;
Bandwidth Availability: guarantees the customer the VPN and Internet bandwidth that he contracted;
Service Restoration Time: guarantees the customer that in case of a fault, his service is up and running within a specified number of hours;

Government Ops Center's commitment to the SLA is enhanced by penalty clauses, that guarantee service credits to the customer if service levels were not met.

The customers of the Government Ops Center are the IT departments of the government entities. These IT departments provide first-line support to their respective customers, being citizens, companies or government employees. If these IT departments have a problem with one of Government Ops Center's services, they contact Government Ops Center's Customer Support Desk. This support desk makes sure the problem is followed-up properly and provides feedback to the IT departments. If Government Ops Center technicians can not solve

the problem themselves, Government Ops Center will call for third-line vendor support. The SLA will also state Government Ops Center's service levels regarding customer support, regular maintenance and lead times for installations and upgrades. Service requirements need to be decided upon by the ICT Steering Committee.

7.2.3 Data Center Services

Government Ops Center operates data centers capable of large-scale storing of government data and hosting of government applications. These data centers are designed and constructed to minimize hazards from electrical power failure, fire, water damage, acts of nature and unauthorized access. In addition the data centers have complete back-up facilities to ensure disaster recovery capability. Services provided in a data center facility include the following:

Hosting services
Government Ops Center hosts application servers[4], Web servers and data base servers from government entities in the secure and stable environment of its data center. Including:
- Installation and configuration
- Performance monitoring and reporting
- Software patches and upgrades
- Maintenance and support
- Database administration
- Server clustering
- Security management
- Fast connections to the SGN or NBN

Backup and restore services
Backup and restore services will guarantee that operations can continue after major faults with minimal loss of quality of service. The backup service consists of one initial full backup and one daily incremental backup on the operating system data and application data. The principal data center is situated on the current NITC premises and is ideally provided with a mirrored fail-over facility that is able to take control of the government systems in the event of a disaster. This fail-over facility must be situated at considerable distance from Amman, preferably in Irbid or Aqaba. The secure data center is provided with high-speed, dual connectivity communication links to the SGN, Internet and fail-over facility.

Service Level Agreements
Government Ops Center will define the Quality of Service (QoS) of its Data Center Services in a SLA, similar to the one described earlier for Government Ops Center's Network Services.

7.2.4 Outsourcing parts of the Government Ops Center

Within the new NITC, the Government Ops Center will play a pivotal role as it will provide the Government Entities with secure and reliable data center and network management services.

---

[4] Application management is done by the government entities that own the applications.

This requires state-of-the-art facilities, run by experienced and dedicated IT staff. NITC's current Government Ops Center is staffed by NITC employees and managed by an experienced manager provided by STS. The practical reality is that this Government Ops Center can barely cope with the current requirements of its few customers. Some observations from daily practice:

- There are no Service Level Agreements (SLA's);
- Performance monitoring- if done at all- does not lead to performance improvements;
- There are no standard operating procedures in place;
- The security of the facilities is inadequate;
- Staff is inexperienced;
- Employees are not trained and there is no transfer of knowledge.

It is clear that the current Government Ops Center needs major upgrading. What we want to discuss in this section, is NITC 's 'make or buy' decision. Should NITC set up and operate its own Government Ops Center, or outsource this to the private sector? We believe there is a strong case for NITC to outsource its Government Ops Center operations. In the next sections we explain the benefits of outsourcing to NITC and the requirements that potential outsource providers must meet.

This recommendation and the proposed organizational design are based on outsourcing a major part of the Government Ops Center.

7.2.4.1 Why Outsourcing?

There are several reasons why we believe NITC should outsource its Government Ops Center:

1. The reduction of operational errors and inefficiencies is one of the most important advantages of outsourcing. Outsourcing providers employ seasoned staffs that adhere to rigorous and well-documented operating procedures. The result is deep experience and consistent discipline that translates directly into improved reliability in system access and repeatability of expected outcomes. The outsource provider's investments in people, technology, and processes enable a level of service quality that is only attainable by NITC after several years of hard work. We estimate that an experienced partner can implement the required Government Ops Center changes within six months, where NITC would probably need over two years to recruit and train skilled IT staff that can implement these changes.

2. NITC staff can focus on developing and improving services that meet the requirements of its government customers, while the continuous updating of server load balancing, system monitoring and tuning, capacity planning, help desk operations and other routine IT functions can be outsourced to a qualified provider. In short, NITC is free to concentrate on its core business, and the outsource provider can concentrate on its core business – staying current with evolving technology. This means that the concept of 'control' will change. NITC will no longer control the performance of its Government Ops Center by doing everything by itself, but will exercise control by making and managing the right arrangements. Instead of routine IT skills, NITC will need to develop SLA Management and Supplier Management skills.

3. In mature IT outsourcing markets, organizations can reduce IT capital and operational expenses by outsourcing, as the outsource providers will benefit from an already experienced learning curve, from existing infrastructure and from economies of scale. At the moment, these benefits will not be tangible in the Jordan IT sector, since there have not yet been outsourcing deals at this scale. However, government may well function as launching customer and more organizations may follow suit. This will

further develop the Jordan IT sector and at the same time reduce the prices to be paid for outsourcing contracts.

4. Outsource providers are more flexible to scale operations up and down in response to changing business requirements. For NITC this will lead to accelerated service development.

5. NITC staff could gain knowledge and experience from the outsourcing partner if knowledge sharing is managed.

7.2.4.2 Outsourcing Requirements
NITC and its outsource provider will commit themselves for multiple years via an outsourcing agreement. The outsource contract is the legal basis of this outsourcing agreement, and as such is of fundamental importance. The contract must be balanced and flexible enough to withstand the inevitable changes that will occur in technology and the business requirements during the length of the contract. It should cover everything from arbitration to support, and from costs to responsibilities. More information concerning the outsourcing process can be found in the NITC Implementation Plan.

7.2.4.3 Ownership
We propose that the outsourcing provider owns the equipment. This can be realized via a 'sell and lease back' construction.
NITC can include a Build-Operate-Transfer (BOT) option in the outsourcing agreement. After the contract, NITC will then have the choice to either extend the contract or to exercise the BOT option. The latter means the outsource provider will transfer the Government Ops Center to the NITC for a pre-defined price (which could be zero). If NITC exercises this option, it can choose whether to operate the Government Ops Center itself, to outsource management via a competitive tender, or to privatize the Government Ops Center.

7.2.4.4 Participation of Jordan IT sector
It is imperative that the Jordan IT sector participates in the outsourcing agreement and we therefore propose that the main contractor must be a Jordanian company. However, outsourcing agreements of this size have not been done yet in Jordan, so no Jordanian company will be able to meet the requirements without international support. Therefore we propose that NITC announces its outsourcing intention to the Jordan IT sector well in advance, so they have the chance to prepare themselves by setting up a JV with a suitable international partner.

7.2.4.5 ITIL processes
The outsource provider must develop and implement standard operating procedures for the Government Ops Center, to make sure it can achieve and keep the promised service levels. We propose that these processes are based on one of the leading standards for best practice IT service management processes, the IT Infrastructure Library (ITIL).

ITIL consists of three main elements: Service Support, Service Delivery and Security Management. The Service Support processes provide flexibility and stability for delivering Government Ops Center's services and consist of the following disciplines:
  ➢ Incident Management
  ➢ Problem Management
  ➢ Change Management
  ➢ Release Management

- ➢ Configuration Management
- ➢ Service Desk

The Service Delivery processes focus on the quality and efficiency of Government Ops Center's services and include the following disciplines:
- ➢ Service Level Management
- ➢ Availability Management
- ➢ Capacity Management
- ➢ Financial Management for IT Services
- ➢ IT Service Continuity Management

Security Management interfaces with both the Service Support and Service Delivery processes and defines the security objectives and specifies a set of security control measures that meet the objectives of the standard.

7.2.4.6   Proposed NITC outsourcing model

Below figure depicts the proposed functions of the NITC in the outsourcing model. The primary function is service level management which can be divided into two types:
1. Managing, monitoring and reporting on the service levels agreed upon between the NITC and the government entities, the NITC customers.
2. Managing adherence to service levels agreed upon between the supplier (the outsourcing partner) and the NITC. In this case the NITC is the customer. This is called supplier management.
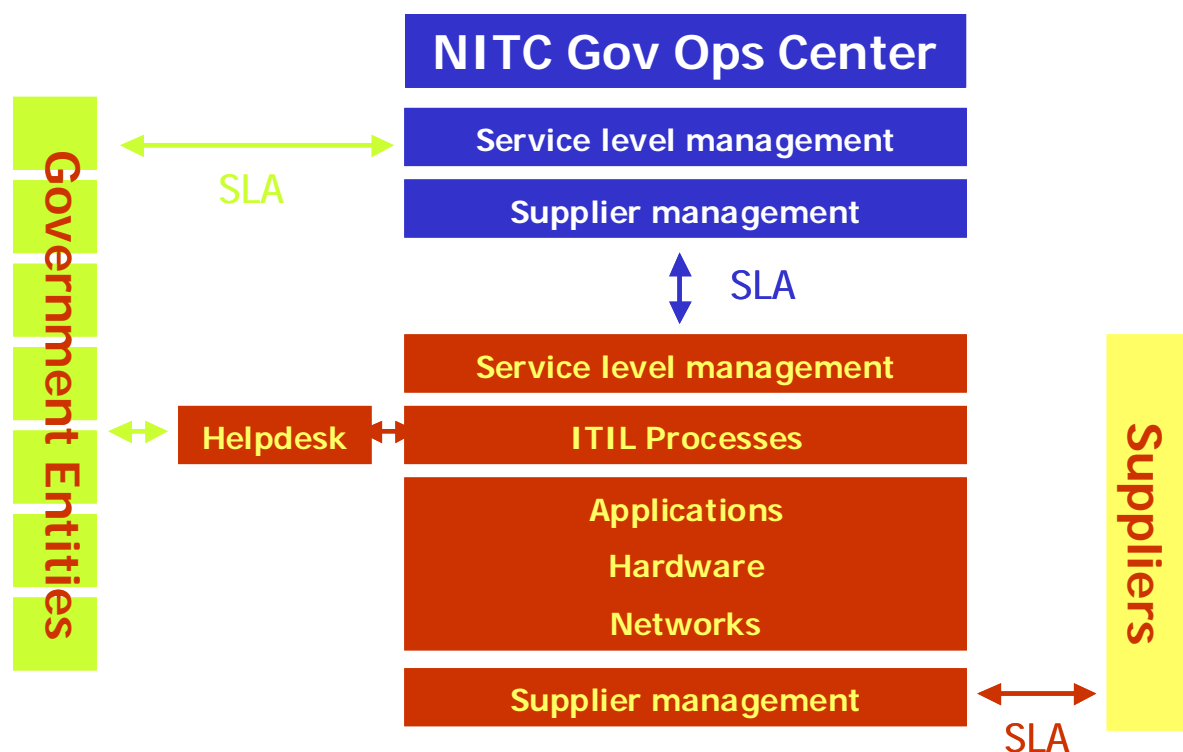
More details on outsourcing requirements will be enclosed in the NITC Implementation Plan.

7.3 Government CTO

7.3.1 Scope

On behalf of all government entities, NITC develops the ICT standards and guidelines for ICT equipment and applications and develops procedures for IT management.
NITC advises government entities on the implementation of NITC standards and guidelines for ICT equipment and applications.
The NITC sets standards for ICT-related RFPs and advises government entities about the specification of RFPs to ensure that the procured equipment and applications comply with government ICT standards and procedures.

7.3.2 Objectives of the CTO

- To reduce ICT costs and increase effective utilization of ICT resources.
- To ensure interoperability of government networks and applications
- To increase uniformity of ICT applications and procedures in government
- To set guidelines and procedures and to ensure compliance to these guidelines

7.3.3 ICT resource control

To ensure compliance the NITC must have a certain degree of control over the ICT resource deployment of government entities.
Control is acquired through the following mechanisms:

- By having direct control over ICT standards for government ICT deployment.
- By having a strong advisory role towards the Ministry of Finance on government ICT spending and budget allocations. (also see chapter 0 Procurement Policy)
- Indirectly, by training managers and staff of IT departments

7.3.4 Services

In summary, services rendered by the CTO are the following:

- ICT procedures & guidelines
- ICT compliance and RFP consultancy
- Technology intelligence: trend watching and international representation
- Security management
- Domain name registration

ICT procedures & guidelines
These procedures and guidelines are based on the ones already in place, if up to date and on the ITIL principles and procedures described in the previous chapter.
The following tasks can be defined:
- Description of the procedures and processes regarding:
  - Management of IT resources and departments
  - Interoperability of applications, systems and networks

During implementation of the new NITC the existing standards and procedures will be reviewed and used where appropriate. The NITC will have a proactive role in implementing the most optimal standards and procedures. Implementation of these standards will be agreed upon with the CIOs in the ICT Steering Committee.

ICT compliance and RFP consultancy
- Advise IT departments on the above procedures
- Support the implementation of the above principles, policies and procedures.

> ➤ Write and implement templates for ICT Requests for Proposal
> ➤ Advise government entities on ICT RFP procedures

Once the standards and procedures have been reviewed the NITC will advise the various government entities on any adaptations. Some of these adaptations may be mandatory, others may be best practice. The NITC will act as advisor to the government entities when procuring ICT software or hardware.

ICT compliance will also be acquired through devising RFP templates for procuring ICT equipment. Also see chapter 11 Procurement Policy.

Technology intelligence
This deals with technology trend watching and international representation at seminars and conferences. This will ensure the NITC is up to date concerning new technologies and can enhance its position in Jordan and internationally.

Security management
> ➤ Determine security measures based on ICT security policy and SLA's
> ➤ Deploy security tools and procedures
> ➤ Create and maintain security awareness
> ➤ Periodically review compliance with security policy

Domain name registration
> ➤ Domain Name Registration is the only service of the NITC that is directly paid for by citizens. It provides the NITC with a revenue stream that can be used to fund activities that yield a more generic benefit to Jordan's socio-economic development, but cannot be allocated to and paid for by a single customer.

The Domain Name Registration procedure is currently in place at the NITC.

After checking whether a domain name is available, a form can be downloaded from the NITC website, filled out, signed and sent by regular mail. During implementation this procedure will be assessed to see whether any changes should be made.

7.4   e-Government

7.4.1 Scope and objectives

The objectives of the e-Government program are summarized as follows[5]:
> ➤ Reduce the costs of government and associated business transactions by streamlining government processes and procedures;
> ➤ Increase the effectiveness of government in dealing with interactions with citizens and businesses.

The main concept of e-Government is to view government as a supplier of services and citizens/businesses as customers wanting to use those services. This involves a fundamental change in the culture and operating practices of government and the perception of government by both citizens and businesses.

In line with the above this department consists of two focus areas:
1. Services and processes
2. Infrastructure

---

[5] Reference: The Hashemite Kingdom of Jordan Government Blueprint and Roadmap

Final, 12-09-2001, page 8.

7.4.2 Services and processes

The key functions of the e-Government department are:
- o Business processes redesign (BPR) of Government
- o Services development defining which services are to be offered through e-Government and developing and launching these services
- o Content Management including standards, forms, languages, look and feel, use of logos etc.; this also includes content management for the National Information System.

The processes and services cannot be considered separately as the re-engineered business processes are needed to deliver a full service.

In relationship to the Business Processes and services the following activities are performed:
- o Identifying the current Services and their owners;
- o Detailing each of the existing Services;
- o Mapping out the Business Processes and in particular detailing where they require involvement from more than one Ministry or Department;
- o Re-engineering the business process to remove unnecessary tasks to provide a full service;

7.4.3 Infrastructure development

To ensure that resources are efficiently utilized and functions do not overlap (business analysts, engineers, programmers, consultants) a clear line should be drawn defining which infrastructure areas are typical for e-Government and which are not.

The infrastructure areas specific for e-Government are developed within the e-Government department with the support of the Government Ops Center and the Chief Technology Office.

The following infrastructure building blocks are defined for e-Government services:
1. Access layer (PC's, mobile devices, internet kiosk)
2. Gateway layer (data conversion, messaging, transaction engine and workflow, authentication, Portal etc.)
3. Shared services layer: the Secure Government Network (SGN)

We propose the following division of activities:

The *access layer* could be individual mobile phones, personal computers or PDAs based on choice by an end user. In addition government can decide to set up e.g. internet kiosks as access points. In this latter case the access layer is developed as a National Program.

The *gateway layer* will be developed within the e-Government program and when finished handed over to the ICT Government Ops Center for operations and maintenance.

The *shared services layer* is already in operation. This will be integrated into the Government Ops Center as described in paragraph 7.2

Government Ops Center.

Connecting new government entities to this SGN will remain within coordination of e-Government office and be done in close collaboration with the Government Ops Center.

During implementation of the NITC the e-Government program should be reviewed and functions that are not specific to e-Government as defined above should be moved to the relevant NITC departments.

7.5 Manpower development

One of the most significant objectives of His Majesty King Abdullah and the Government is to use ICT as a major contributor to the social and economic development of Jordan. To accelerate the use of ICT the MoICT must act fast in implementing ICT development programs for its citizens and businesses. The NITC must be used as a catalyst and accelerator towards this end.

The underlying objectives regarding manpower development are threefold:

1. Developing the skills of the nation (citizens and businesses) through programs using ICT and/ or teaching ICT (current examples are the Jordan Education Initiative, NetCorps, Knowledge Stations, ICDL).
2. Developing the ICT skills of government employees
3. Developing the skills of the NITC staff

The department of Manpower Development will actively focus on the latter two objectives. In addition it will support the various National Programs in achieving the first objective.

This department will not employ actual trainers but will set up training programs based on the various needs and job requirements within government; the actual training will be done by private sector companies

7.5.1 Developing the ICT skills of government employees

The NITC will set up mandatory training programs to enhance basic ICT skills of all government employees who use IT in their work. In addition the NITC will set up advanced training programs for the IT departments of government entities. Working with universities and offering interesting trainee-ships to graduates will be one of the focus areas within the training programs.

These training programs can be simple courses on how to use a certain application or more advanced courses on project management, business analytics, service level management, ITIL etc.

7.5.2 Developing the skills of the NITC staff

The key business areas of the NITC cannot take shape without well qualified professionals. Manpower development plays a major part in retaining qualified personnel for each key business area ensuring that knowledge acquisition, knowledge sharing and knowledge transfer are incorporated into the organization.

This will be done through:

1. Competence development
2. Competence management

Competence development is the set up of a so-called competence library defining the required core competences within the NITC. Competences are described based on expertise, knowledge and skills. In addition to the competence library role profiles are defined which describe which competences are needed and the competence level that is tied to a certain job. The role profile also describes the job objectives and responsibilities. The job profiles in the appendix can be used as input for these role profiles.

Once the above is in place the method must be continuously updated and monitored through competence management. This latter function is done in close cooperation with the HR department as the results of individual performance appraisals and training needs assessments must be incorporated into competence management.

Procedures regarding training budgets and necessary training curricula for individual employees will be devised within the HR department and based on individual performance appraisals.

8   Branding

For many the NITC is still known by its previous name the NIC (National Information Center). A full blown re-branding campaign never took place when the temporary Law (81) was released. For the newly structured NITC a re-branding campaign should take place.

We strongly recommend that the NITC decides on a new name for various reasons.
1. NITC or NIC are not strong brands
2. The NITC does not have a reputation of excellence
3. A new name should be appealing and reflect what the NITC does and/ or the type of image it wants to project

Please note that changing the name does have implications for the Law.

Whatever choice is made, the branding strategy for the NITC should focus on the following ends:

- To ensure that government entities want to use NITC services
- To ensure that Jordanian professionals want to work at the NITC
- To ensure that the private sector wants to be a partner of the NITC
- To attract funding to achieve the NITC goals

The above entails two types of branding within the NITC:
1. Corporate communications and branding: promoting the NITC
2. Project-related communications and branding: promoting the various project initiatives of the NITC.

Essential for the branding strategy is to position the NITC as a service provider for government not a service provider exclusively for the MoICT.

The main audience for the NITC communications are government entities.

The key message promoting the NITC should focus on **Quality, Reliability and Professionalism.**
The project-related key messages and audiences will vary according to project objectives.

9 Organizational design

All processes, procedures and activities described in the previous chapters, must be executed within the NITC. Therefore the NITC's organization must reflect the total set of responsibilities that need to be performed. Job profiles of key roles elaborating on these responsibilities can be found in the appendix.

9.1 *Organization structure and key roles*
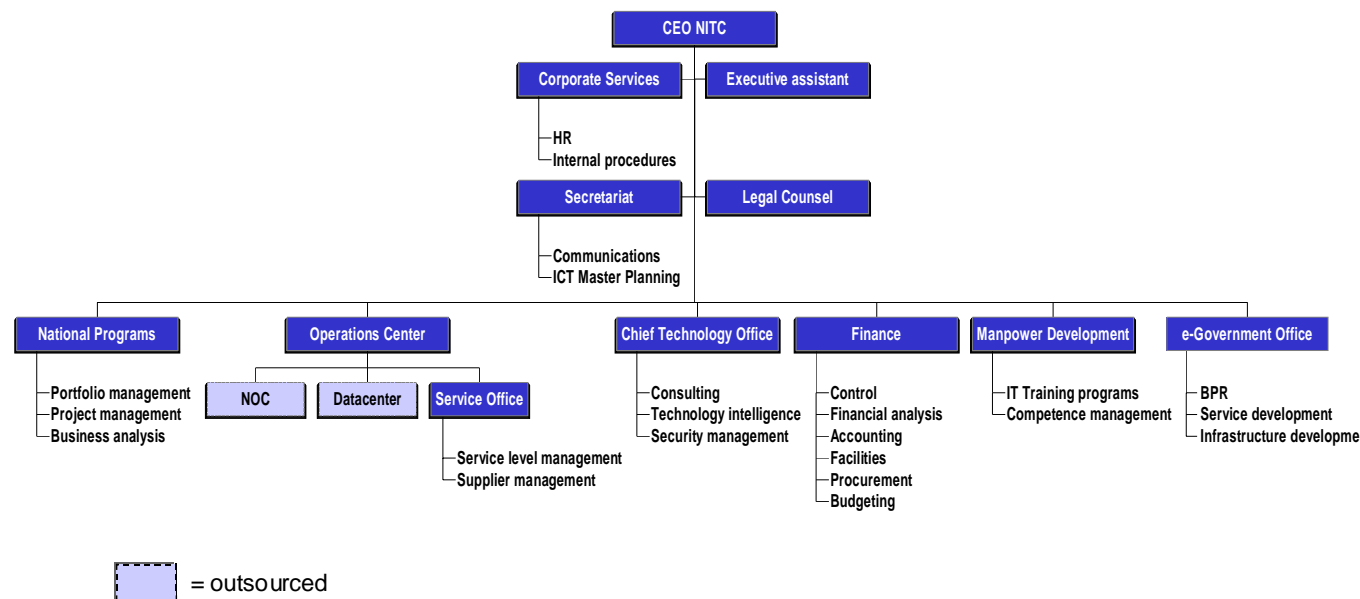
Job Title	Key responsibilities
Chief Executive Officer (CEO)	Responsible and accountable for the successful and efficient operations of the whole NITC.
Chief Financial Officer	Responsible for all activities regarding finance, procurement, management reporting, facilities as well as for the financial project control.
Chief Technology Officer	Responsible for all ICT policies and quality assurance and for the adherence to these policies by government entities.
Director National Programs Department	Responsible for the deliverables of the full project portfolio and provides prioritization and direction for project implementation.
Director Manpower development	Responsible for setting up training programs and training partnerships with the private sector and universities to give the various courses necessary to develop the skill sets of government employees.
Director e- Government	Responsible for the development of e-Government services and operations.
Government Ops Center manager	Responsible for the operations of the government network and applications and all services rendered through the operations center.
Manager of Corporate Services	Human resource management and management of internal business processes and procedures.
Secretary	Responsible for the writing and updating of the ICT Master Plan in cooperation with portfolio management; responsible for the NITC branding strategy and communications.
Legal counsel	Responsible for ensuring that all procedures, partnerships and contracts are in line with legal requirements; and devising and approving contracts and RFPs.

9.2 Organization size

The total organization size for the newly formed NITC will be 106 full time employees. The migration to this organization is described in the NITC Implementation Plan. Knowledge Station staff are not included in this head count.

The following paragraphs will depict the different departments or functions and their respective key responsibilities, number of FTEs[6] and job titles.

The end of each chapter gives the total number of FTEs per department.

9.2.1 General Staff

Department or Function	Key responsibilities	FTEs	Expertise/ Job title
Chief Executive Office	Management of the NITC	3	1 CEO 1 executive assistant 1 secretary
Corporate Services	Selection and recruitment Remuneration, compensation and benefits system Job needs assessment Job ranking Performance appraisal policies	8	2 HR specialists 1 administrator 1 manager 2 registry assistants 2 telephone operators

---

[6] FTEs = Full Time Employees

	Labor conditions and procedures HR allocation Internal procedures		
Secretariat	ICT Master Planning and monitoring Corporate communications Branding strategy and approach Program communications and branding	4	1 quality and planning specialist (head of Secretariat) 1 administrator 2 communications experts
Legal Counsel	Advises on all contracts including procurement, the hiring of personnel, partnerships; ensures that all contracts abide by the laws and regulations of the Kingdom. Ensures that project plans are in line with the laws and regulations and advises project managers and key stakeholders on all legal matters	1	1 legal advisor

Total number of General staff: 16

9.2.2 National Programs

Department/ Function	Key responsibilities	FTEs	Expertise/ Job Title
Director	Responsible for efficient and effective portfolio management and innovation	2	1 Director of National Programs; 1 executive assistant
Project Management Office	Responsible for the efficient administration of all projects	4	4 project administrators
Portfolio management	Project prioritization, planning and resource alignment; issue and risk management; business case analyses and assessments Quality management and ICT Steering Committee preparation	4	1 portfolio manager 2 quality managers and planner 1 administrator
Project management	Project planning and reporting; escalation management; change request management; risk management; business case analysis; information, quality, budget, time and people management; partner/ vendor management	9	2 program managers; 7 senior project managers
Business analysis	Ensuring project results are aligned to business objectives of the various ministries; translating customer needs into functional requirements for ICT supporting systems.	8	8 business analysts

Total number of National Programs staff: 27

9.2.3   Chief Technology Office

Department/ Function	Key responsibilities	FTEs	Expertise or Job Title
Chief Technology Office	Overall responsibility for monitoring technological trends, standards and infrastructure and for project feasibility, architecture and data security. Responsible for all ICT standardization and interoperability of ICT equipment in government.	2	1 CTO 1 executive assistant
Consulting Services	Devise guidelines and procedures for the IT infrastructure Ensure compliance to these guidelines through regular checks Devise and distribute RFP templates for ICT procurement in government; advise government entities on their ICT procurements; represent the NITC at seminars and conferences	3	3 ICT experts
Technology Intelligence	Provisioning of information and (strategic) analyses on the local and international market (trends and emerging technologies); assist and support product managers concerning market trends within the public and private sector	1	1 technology researcher
Security management	Set up a security policy for secure and reliable management of government information	1	1 security specialist
Domain name registration	Register domain name and maintain the domain name registration system	1	1 administrator

Total number of CTO staff: 8

9.2.4   e-Government

Department/ Function	Key responsibilities	FTEs	Expertise or Job Title
Director of e-Government	Establish and maintain the vision and objectives for e-Government within the GOJ· Provide leadership for the e-Government program through effective project management, support and pro-active engagement with government decision-makers and Information Technology units. Responsible and accountable for all e-Government deliverables	2	1 manager 1 executive assistant
Service innovation and management	Initiate market research and analyze results; generate new ideas for market; product/ service benchmarking; product/ services initiation, implementation and launch	4	2 senior service innovators, 2 service managers

Change management	Ensure effective project management and initiative implementation though alignment of strategy, process, technology and people; ensure that Business process re-engineering (BPR) and Change Management is specified and carried out to effectively implement the newly developed services; monitor, and update where necessary, standards and norms for BPR and Change Management	6	1 change manager and team leader and 4 process managers 1 project administrator
Content management	Direct the management, coordination and content control activities and standards for the GOJ e-Government Portal and for the National Information System; ensure quality of content through regular checks and support government entities in keeping their content up to date. Ongoing revision of e-government portal and NIS structure, design, and layout to constantly improve usability and editorial qualities.	4	1 senior content manager and team leader; 3 content managers
e-Government Quality management	Ensure that the e-Government program will satisfy the needs for which it was undertaken, through; identifying relevant quality standards and the procedures and tools; quality Assurance; ensure the quality of work performed by employees working on e government initiatives; ensure program communication to key stakeholders.	1	1 quality manager
Infrastructure development	Defines and integrates services such as access, file transfer, messaging, mail, directory and naming services to provide communication capability access across heterogeneous platform and network environments; ensures the development of the e-Government portal; supports services innovation.	2	1 infrastructure architect 1 web specialist

Total number of e-Government staff: 19

9.2.5 Government Operations Center

Department/ Function	Key responsibilities	FTEs	Expertise/ Job Title
Manager	Responsible for the operations of the government network and applications and all services rendered by the	1	1 ops center Manager

	operations center.		
Supplier management	Managing adherence to service levels agreed upon between the supplier (the outsourcing partner) and the NITC. In this case the NITC is the customer.	1	1 supplier manager
Service level management	Managing, monitoring and reporting on the service levels agreed upon between the NITC and the government entities,	1	1 service level manager

Total number of Government Operations Center staff: 3

9.2.6   Finance

Department/ Function	Key responsibilities	FTEs	Expertise/ Job Title
CFO	Responsible for all issues concerning NITC finance and facilities.	2	1 Chief Financial Officer 1 executive assistant
Financial control	Analysis and co-ordination of the NITC's business planning; monitors the NITC's contributions to the results and return on investments. Internal control, financial audits, control procedures for financial flows; accounting and cost allocation.	4	2 controllers 1 financial administrator 1 billing administrator
Financial analysis	Business case feasibility studies and analyses; project ROI consulting and financial modeling for projects and products; assisting project and program managers in their budgeting and resource allocation; advising the Ministry of Finance and government entities on ICT budgeting.	4	financial analysts
Contract management	Ensures procurement procedures are followed efficiently and effectively Ensures contracts with partners are drawn up and feasible	2	contract managers
Facilities management	Day-to-day operations of all domestic facilities and an optimal service including maintenance of the buildings, and all internal facilities such as security, office automation, reception, canteen, meeting room, postal services, cleaning and for management support. Strategic planning of and build-out of new facilities as the company grows.	16	1 facilities manager 3 IT support employees; 1 administrator 4 drivers 3 cleaners 2 office assistants 2 supplies assistants

Total number of Finance staff: 28

9.2.7   Manpower Development

Department/ function	Key responsibilities	FTEs	Expertise/ Job title
Capabilities planning	Assess current government ICT capabilities and skills and plan curricula for all levels.	2	1 Training manager and Director of Manpower development 1 administrator
Training manager	Coordinate, manage and evaluate regular training programs for government employees with the private sector and universities based on needs assessments; assist and support the various National Programs	2	Training experts

	in their training and development needs.		
Competence management	Develop a competence library with role profiles for the NITC functions and support HR with aligning the competence library with the performance appraisal system.	1	1 competence manager

Total number of Manpower Development staff: 5

10 Human Resource management

The transformation of the NITC providing a wide range of high quality services to government entities will be a complex task. In addition, it has to be accomplished with ambitious long-term goals in mind. The success of this task is highly dependent on the people working at the NITC and on the implementation of a comprehensive and carefully designed program of change management.

It is vitally important not to underestimate the importance of balancing the mix of new skills with the knowledge and expertise that already exists within the NITC organization.

Below is defined a set of objectives aiming to realize deliverables ranging from performance management, to workers' empowerment, employment equity and sound labor relations. These objectives can be summarized as follows:

- Drive and maintain a performance culture
- Have an empowered workforce
- Implement a competency development framework
- Create an innovative and creative environment

The over-riding objective of the HR department is to ensure that the NITC has competent, committed and co-operative staff in sufficient quantities and at the right time.

The following model will be used as a framework for the change:
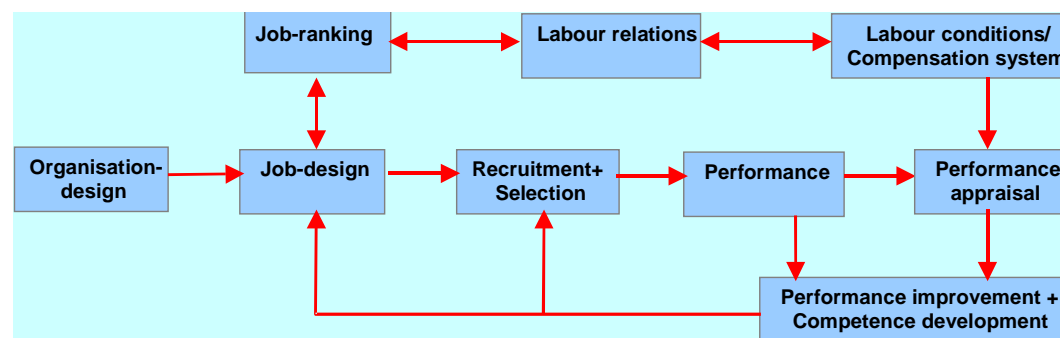
The institution of a new results-driven corporate culture based on openness and sense of belonging will require a major culture change that can be facilitated by extensive training. The change process will only succeed if the employees are enthusiastic and fully involved in the process. New management practices will be injected, which will make further retraining of staff necessary.

The rest of this chapter will describe guidelines for remuneration, compensation, performance appraisal and training.

10.1 Remuneration and compensation

At present the MoICT has two types of employees:

1. Ranked employees whose salary is based on the generic Government job ranking system. These salaries are low and not at all competitive.
2. Contracted employees who receive a salary based on ranges that are approved annually by the Prime Ministry's office. These salaries are more similar to private sector salaries.

NITC Strategy and Design

The NITC has an independent job ranking method which is being reviewed and is in the process of being renewed. In this section we will focus on distributing extrinsic rewards which are given to the employee by the organization. Extrinsic rewards can be broken down into:

- ➢ Direct compensation: basic wage, bonuses, holiday pay
- ➢ Indirect compensation: time off with pay
- ➢ Non financial rewards: health insurance, preferred office locations, mobile phone, laptop, car, driver, choice parking spaces

Distributing rewards across the NITC should be based on factors such as performance, effort, seniority, equality and power and influence.
To develop an effective reward system we propose to develop a job classification system which ranks jobs against each other based on reward factors. These factors help determine starting salaries, pay grades and the number of levels in given pay grades.

A typical job classification system rates the jobs in a cluster of jobs on the reward factors. Then points for each factor are assigned that are accumulated for each job and then totaled. These totals are then used to rank order the jobs in the organization.

A widely used system is the *Hay job evaluation system*. It is an analytical, factor based scheme which measures the relative size of jobs within an organization.

The Hay system assesses each job by examining three main elements of job content which are common to all jobs to one extent or another:

1. Know How – the levels of knowledge, skill and experience (gained through job experience, education and training) which are required to perform the job successfully

2. Problem Solving – the complexity of thinking required to perform the job when applying Know How

3. Accountability – the impact the job has on the organisation and the constraints the job holder has on acting independently

The three main elements are broken down further into sub elements:

1. Know how
   - ➢ Depth and Range of Know How
   - ➢ Planning and Organizing
   - ➢ Communicating and Influencing
2. Problem Solving
   - ➢ Thinking Environment
   - ➢ Thinking Challenge
3. Accountability
   - ➢ Freedom to Act
   - ➢ Nature of Impact
   - ➢ Area of Impact

A trained evaluation panel evaluates jobs against each of the elements using detailed job descriptions. The outcome of the evaluation assigns a profile and points-score which shows the total size of the job. The points score enables jobs to be placed in a rank order with other jobs within the NITC.

Essential for the NITC is offering competitive salaries to attract and maintain quality professionals. In our financial model we will base the salary costs on assumptions concerning private sector salaries and on some of the current salaries at the MoICT, the TRC and the NITC.
Int@j has published a report on average salaries earned in the Jordan ICT sector. This report could be used as a salary benchmark for the NITC.

10.2 Performance appraisal

At present within the MoICT and NITC roles and responsibilities are not clear, measurable performance targets are not agreed upon, limited to no performance feedback is given, no measures are taken to improve performance or discourage bad performance and nobody is held accountable for results.
Introducing a performance appraisal system is essential to solve the above problems and to ensure and maintain a successful NITC.

Systematic appraisal is done for various reasons:
  ➢ To assess how effectively each job is being performed
  ➢ To identify reasons for a particular level of performance
  ➢ To seek ways to improve future performance
  ➢ To motivate employees in doing a good job
  ➢ To make decisions concerning salary increases, promotions, bonuses and training needs.

For the NITC we propose the following appraisal process based on best practice:

  1. Evaluate the employee's performance
  2. Agree on rate for current performance and find mutually agreed ways for improvement
  3. Identify development needs and plan training for the employee
  4. Agree on realistic performance objectives to be achieved by the next review period and act accordingly.

Improve   *Plan*

Evaluate   *Do*
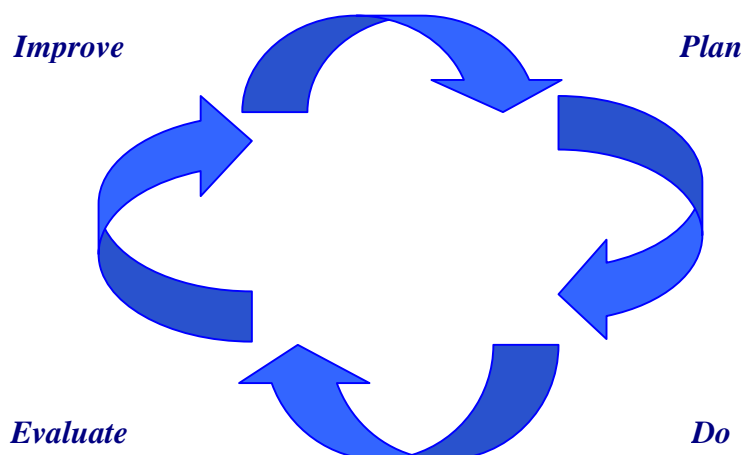
This performance evaluation cycle is done annually for all employees.
It is strongly recommended that more than one individual, usually the direct manager, assesses an employee's performance. The assessment should be done by various people who have worked with the assessed individual. This is called the 360° appraisal.

We also propose to introduce performance based compensation with regular incentives based on accomplishments and punitive measures for non performance.
This performance based compensation should apply to at least all NITC managers. In this manner they can be held accountable for the functioning and the output of their respective departments.

Performance based rewarding could be done through combining a fixed salary and a variable salary according to a ratio of e.g. 85%/ 15%. This means that 15% of the salaries is based on performance. Another option is to apply bonuses based on performance. Essential for introducing performance based salaries is a measurable performance appraisal system. Without this performance based rewarding should not be introduced.

10.3 Training

The NITC will have its own training department in the form of the Manpower development department which focuses on ICT skill development throughout government.
During the performance appraisal process the employee and employer seek ways to improve performance including identifying training needs of employees.
It is strongly recommended that the NITC allocate a substantial proportion of its annual budget to training and development of its own employees. During the performance appraisal process it is decided how to spend each individual budget. Each employee can submit requests for certain courses to the Manpower development department. If these request are in line with the training objectives devised by competence development they are incorporated into the Manpower development training programs.

11 Procurement Policy

NITC is involved in ICT procurement in two different roles. First, NITC procures ICT products and services required for the various initiatives and programs it manages in its National Programs and e-Government departments. Second, NITC plays a strong advisory role in the ICT budgeting and procurement process of government entities. These two roles will be described in this chapter.

11.1 NITC Procurement

Currently, MoICT's programs and initiatives incur considerable delay due to extended tender procedures. In general, tender processes tend to range from five to fourteen months. Analysis has shown that these delays are not caused by the complexity of the tender processes. These processes are based on World Bank standards and are used by public and private sector organizations across the world. The main causes for the tender delays are the lack of discipline in adhering to the timelines of the processes and the unavailability of key decision makers.

As separate legal entity, NITC can have its own tender procedures. These procedures do not need to differ too much from NITC's or MoICT's current tender procedures, except that adherence to milestones and availability of decision makers deserve special attention. In that respect we advise the following:
1. Install a Special Tender Committee, including a representative from the General Supplies Directorate;
2. Make sure that representatives change as little as possible, to preserve knowledge;
3. Set fixed dates for Tender Committee meetings, so project managers can plan their project milestones around these meetings;
4. Do not postpone meetings or decision making because of the unavailability of committee members. Committee members are responsible for delegating adequate representation with sufficient mandate.

11.2 ICT budgeting and procurement by government entities

Currently, there is no overview of government ICT spending, nor to what extent this spending contributes to the National ICT Strategy. NITC wants to link government ICT spending to the national ICT Master Plan and therefore needs to be able to exercise some level of control over ICT procurement by government entities. This level of control is materialized in the followings ways:

1. NITC sets standards for ICT RFP's and organizes audits on the application of these standards, giving direction to government ICT procurement;
2. NITC has a strong advisory role in the ICT budgeting process and in the release of ICT budgets.

The latter mechanism is explained in the below flow chart.
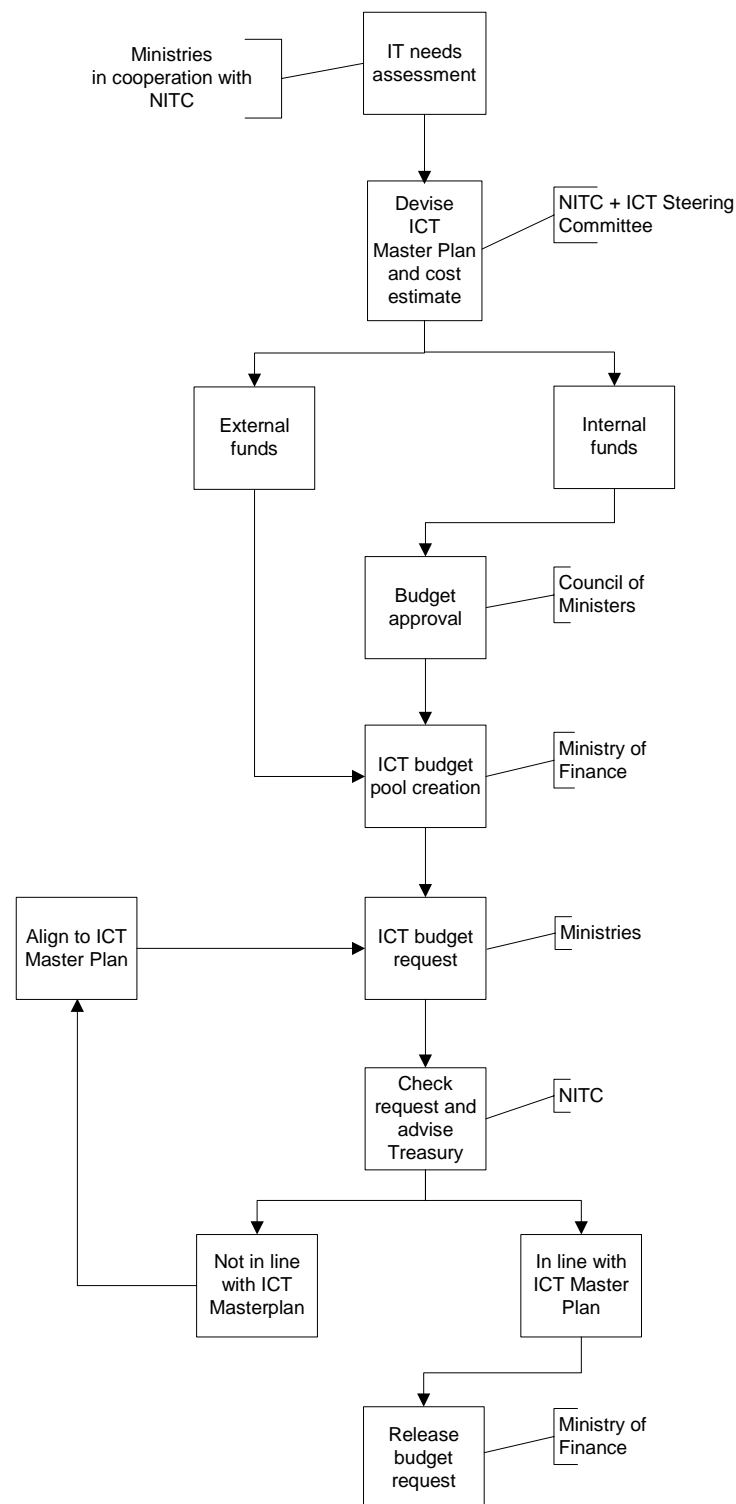
In the above procedure the ICT budget is tied directly to the ICT Master Plan and the NITC plays a strong advisory role towards the ministries regarding their plans and towards the Ministry of Finance regarding budget allocation and release.

To ensure that the NITC cannot become a bottleneck in the procedure it must be tied to a time limit. For example if the requesting ministry does not receive approval within 10 working days the Treasury will release the budget. This implies that no response from the NITC means they approve budget release.

The above procedure is followed when the requested amount is above a threshold of JD50,000. Please note that a spending threshold is already in place, nevertheless some ministries divide their purchases into small amounts to stay below this threshold. It is the task of the Auditing Bureau to check this on a regular basis. A ministry purchasing a large number of items within a short timeframe from the same company is usually a sign of concealing a larger purchase.

12 Financial Model

NITC is a public institution and has no profit objectives. Its financial model is based on the following starting points:

- NITC provides services to government entities[7]. If possible, it will charge for service usage on a cost-plus basis.
- When charging for services that are amply available in the private sector as well, NITC will not undercut market prices.
- NITC will budget for generic services that can not be allocated to individual government entities or that are deliberately provided free of charge to stimulate service usage.
- NITC will budget for overhead expenses.
- NITC will be self-sustainable in the sense that it will explicitly substantiate its budget planning based on the above principles, instead of requesting additional funds just to balance the budget.

In this chapter, we will discuss NITC's financial model. We will first discuss the pricing of NITC's service portfolio. Then we will look at the budgeting cycle. Together, prices charged for services and allocated budgets (including grants) comprise the revenue side of NITC's financial model. Next we will discuss the OPEX and CAPEX consequences of the NITC design, which make up for the cost side of NITC's financial model.

12.1 Pricing

12.1.1 Services of National Programs

The National Programs department of the NITC provides implementation services to government that can be divided into portfolio management and project management services.

The portfolio management services consist of activities like managing the project portfolio, executing feasibility studies, and initiating, resourcing and prioritizing projects. These kinds of activities make a more or less steady workflow, that can be budgeted for on a yearly basis. Since we would like to encourage government entities to make use of these services, we propose that NITC provides portfolio management services free of charge. The costs incurred will be recuperated via its annual budget.

Since all projects are different in size and complexity, budgeting for projects will be done on a per project basis. During the initialization phase of a project- which is part of portfolio management and hence free of charge- the first rough budget calculations are made, including costs estimates for the planning phase. If the project beneficiary decides to justify the project, it will be responsible for paying for the costs of the planning phase. During the planning phase, the required budget for the project execution will be determined. A project will only start execution if the project beneficiary has made sufficient budget available to NITC. This budget covers all project staffing (both internal and external) and other out-of-pocket project expenses.

---

[7] Only Domain Name Registration Services are provided to non-government organizations and individuals as well.

The office and ICT facilities of the PMU are budgeted for by NITC in the annual budgeting cycle. If the size of a project requires extra facilities in that respect, this will be included in the project budget.

12.1.2 Government Ops Center services

Since the Government Ops Center services are outsourced, the costs to provide these services consist of the costs of the outsourcing contract plus the costs of the (limited) NITC Ops Center staff.

Pricing for the operations center services is done on a cost basis on the principle that government entities pay for the services that they use. Costs are calculated using the Activity Based Costing (ABC) method.

The ABC method ensures that every Dinar spent by the Government Ops Center, including direct and overhead costs, is allocated to its services in order to realistically identify the cost of delivering those services. In essence, ABC works like this:

1. Identify the activities and infrastructure elements that are required to provide a service. These are the cost drivers.
2. Estimate the total costs for each cost driver on a yearly basis.
3. Estimate the usage of each cost driver by each service. This provides the service costs on a yearly basis.
4. Estimate the usage of each service for all government entities. This determines their service bill.

NITC takes care of cost accounting and billing the government entities based on usage information provided by the Outsource Provider. The service costs are updated quarterly. Government entities will pay quarterly upfront, with quarterly updates of their payment reflecting service upgrades.

12.1.3 e-Government Services

The e-Government department is developing e-Government services and infrastructures. The actual operations of these services and infrastructures will be done via the Government Ops Center.

Within e-Government, a subscription model is determined. This model will define the charge-back mechanisms to government entities for e-Government services provided by or through the NITC. Microsoft and Gartner will work on this model, starting earliest June 2004. This should cover the operational expenses, as incurred by the Government Ops Center, as well as the development costs incurred by the e-Government department.

12.1.4 Chief Technology Office

The services of the CTO include:
- ICT procedures & guidelines
- ICT compliance consultancy
- Technology trend watching & international representation
- Domain name registration

The first two services are related to establishing, implementing and maintaining adequate ICT standards for government entities. Since it is in the general interest that government entities

make use of NITC expertise in that area, we propose that NITC provides these services out of its annual budget.

The same reasoning goes for Technology Trend Watching & International Representation. This task is performed for NITC to be able to enhance its position as ICT authority and is hence a task of general interest that is funded from the annual budget.

Domain name registration of the .jo domain is a service that NITC provides to Jordan's citizens and organizations. The costs for these services can be recuperated via a one-time installation fee, plus a yearly subscription fee. These fees should not be so high that they stifle Internet growth. Therefore, we propose to price domain name registration as follows:
- JD 50 for registration and first-year subscription
- JD 25 per year subscription

12.1.5 Manpower Development

NITC develops suitable ICT training programs for government employees and government IT staff, and contracts organizations that can execute these programs. Manpower Development will arrange the bookings for these trainings and register certified employees. The actual training itself will be paid for by the IT departments of the government entities. The development costs (i.e. expenses of staff from Manpower Development department) will be recuperated via a surcharge on the training expenses.

Programs which are set up to enhance manpower development in general can be initiated through National Programs and should be incorporated into the ICT Master Plan. Funding for these programs will be the responsibility of the main stakeholders as for all projects managed by National Programs as described above. If a project requires support from Manpower Development, the corresponding costs will be included in the project budget.

12.2 Budgeting

Budgeting for NITC will be done in two ways:

1. Via an annual budgeting cycle, in which NITC plans their next year budget, has the budget approved by Cabinet, manages its budget and reports to the Cabinet (via the Ministry of Finance) on budget usage. The cost items that need to be budgeted for, were discussed in the previous section on Pricing. To enhance NITC's transparency, there will be a annual budget audit by an independent third party reporting to the Audit Bureau.

2. For each individual project. In this case planning, managing and reporting the budget is part of the project. Project budgets will be arranged by the project owner, i.e. the CIO of the corresponding government entity. This budget will be released to NITC at pre-defined moments during the Execution phase of a project. The use of project budgets will be audited as well by the same party that audits NITC's general budget usage.

12.3 Budget requirements

We have developed a spreadsheet model that calculates NITC budget requirements for the coming 5-year period 2005 – 2009, based on its revenues and expenses. The spreadsheet consists of a number of worksheets covering the various areas of NITC's financial model. We will now discuss the key assumptions and results of this spreadsheet model.

12.3.1 Income Statement

This sheet shows the results of the model by subtracting total costs from total revenues. The total budget requirements then follow by taking third party funding (grants etc.) into account. The resulting Income Statement is shown below.

NITC Income Statement	2005	2006	2007	2008	2009
Revenues					
National Programs	JOD 654.933	JOD 1.139.366	JOD 1.165.951	JOD 1.193.156	JOD 1.220.997
Government Ops Center + e-Government	JOD 2.939.862	JOD 3.872.827	JOD 4.412.998	JOD 4.850.492	JOD 5.224.523
CTO	JOD 14.710	JOD 16.559	JOD 18.640	JOD 19.614	JOD 21.075
Manpower Development	JOD 379.947	JOD 818.932	JOD 1.050.219	JOD 1.077.596	JOD 1.105.757
Total revenues	**JOD 3.989.453**	**JOD 5.847.683**	**JOD 6.647.808**	**JOD 7.140.859**	**JOD 7.572.351**
Costs of goods sold					
ICT courses	JOD 300.000	JOD 716.333	JOD 942.490	JOD 964.481	JOD 986.986
Ops Center outsourcing	JOD 2.540.127	JOD 3.350.506	JOD 3.864.562	JOD 4.274.634	JOD 4.619.872
Total CoGS	**JOD 2.840.127**	**JOD 4.066.840**	**JOD 4.807.052**	**JOD 5.239.116**	**JOD 5.606.858**
General and administrative expenditures	JOD 2.486.787	JOD 3.130.815	JOD 3.092.878	JOD 3.246.565	JOD 3.408.470
Operating result	(JOD 1.337.462)	(JOD 1.349.971)	(JOD 1.252.122)	(JOD 1.344.821)	(JOD 1.442.976)
Investments	JOD 630.000	JOD 305.990	JOD 83.474	JOD 70.953	JOD 60.310
Gross Budget requirements	JOD 1.967.462	JOD 1.655.961	JOD 1.335.596	JOD 1.415.774	JOD 1.503.286
Funds & Grants available					
Net Budget requirements	JOD 1.967.462	JOD 1.655.961	JOD 1.335.596	JOD 1.415.774	JOD 1.503.286

Please be aware that the calculated Net Budget Requirements are based on the assumption that NITC receives considerable revenue contributions (i.e. budget transfers) from Government Entities and third party funding (i.e. grants). The actual costs of running NITC's operations are equal to the Net Budget Requirements plus Revenues and Grants.

All calculations are based on costs and revenue assumptions as known in June 2004. There are various projects in progress (e.g. Outsourcing Ops Center and e-Government Subscription Model) that will provide better cost and revenue estimates. Therefore this model should be updated once the above-mentioned projects have provided more insight.
The break-down of revenues and costs is shown in the other worksheets in Appendix II Financial Projections. An explanation of each worksheet is contained in the below paragraphs.

12.3.2 General assumptions

This worksheet contains assumptions on financial parameters like inflation, currency exchange and interest rates.

12.3.3 Revenues

This worksheet calculates NITC's revenues for each group of services, based on the starting points that were stated in the section on *Pricing*:
1. For National Programs, the revenues are based on the number of man months of expertise that is provided by the NITC.
2. For the Government Ops Center and e-Government, revenues are equal to the total costs of the Ops Center outsourcing contract (including all infrastructure costs), the NITC Ops Center staff and the e-Government staff. These costs are divided over the

government entities using ABC cost accounting and the e-Government Subscription Model. The estimates for the outsourcing contract costs still are premature, but since costs and revenues are closely linked here, the effect of these premature estimates on total budget requirements is zero.

3. The CTO office only has revenues from domain name registration services, based on registration and subscription fees per domain name.
4. Manpower Development has revenues from training services, based on the costs of the actual training provided, with a mark-up for fixed costs.

12.3.4 Organization

This worksheet describes the size of NITC's organization and its development for the five year period. For each job position within the various departments, the number of incumbents is multiplied with the costs for salary and a 30% mark-up for additional staff-related expenses like bonuses, social security contribution and taxes.

12.3.5 General & Administrative

This worksheet calculates the expenses for salaries, office rent, marketing and communications, training and organization development.

12.3.6 Outsource Contract

In this worksheet, we calculate an estimate for the value of the Ops Center outsource contract by looking at the various cost elements the outsource provider will incur:

- Depreciations for investments done in infrastructure
- Salary costs
- Bandwidth expenses
- Interest expenses to finance the investments
- Overhead costs plus margin.

12.3.7 Investments

This worksheet calculates the investments NITC needs to do in PC's and office furbishing.

13 Recommended adaptations to the NITC Law

To ensure that the NITC be able to perform all functions described in this document in an efficient and effective manner we propose slight adaptations to the 'Temporary Law No. (81) for the year 2003 The Law on the deployment of Information Technology Resources in Governmental Entities.'
These adaptations could be an actual change or an elaboration to make the Law more specific and less prone to misinterpretations.
Each article we propose to adapt or detail is quoted below with the proposed change and a short explanation of why it should be changed:

Article (4)

> *A*- For the purposes of this law the Ministry shall assume the following functions and authorities:
> 4- Evaluate and examine the deployment of Information Technology Resources, including the manner in which such Resources are acquired, installed, provided, managed and operated.
> 5- Issue mandatory technical and operational standards to secure interconnection between different locations within the Governmental Entities network and the necessary operational and technical operability among the networks or information technology systems of the Governmental Entities, in accordance with the Strategy, Plans, Programs or the decisions of the Council of Ministers.
> 6- Issue guiding technical and operational standards pertaining to the Information Technology Resources to contribute in achieving the objectives of this Law, as it deems appropriate.
> 7- Represent the Kingdom in the Arab and international conferences and seminars relevant to Information Technology Resources.

The Law states that the Ministry shall assume the above functions.
It is strongly recommended that the Ministry authorizes the NITC to exercise the mandate regarding the above Article (4)A points 4,5,6 and 7 to enable the NITC to achieve its objectives of increased ICT efficiency and effectiveness throughout government.
Please note that this does not imply a change to the Law but is of such significance that it deserves special attention.

Article (10)A

> The management of the Center and supervision of its affairs shall be carried out by the Board of Directors of the National Information Technology Center, headed by the Minister and, in addition, shall consist of:
> 1. The Secretary General of the Ministry.
> 2. The Secretary General of the Ministry of Finance.
> 3. The Manager.
> 4. A manager in the Ministry with appropriate knowledge and experience, as named by the Minister
> Four persons representing related governmental agencies with work related to that of the Center, to be chosen by a decision of the Council of Ministers on the recommendation of the Minister, by arrangement with the minister concerned for a period of two years before renewal; by the same means, to change any member for a period to consist of the remaining period of membership.

Proposed change
Add:

The board of Directors must consist of at least one **representative of the Private Sector.**

Reason for addition:
The NITC has the potential to become a threat to the private sector. To minimize the risk of directly competing with the private sector and to ensure strong involvement of the private sector in government ICT related procurements, the NITC Board of Directors should be represented by at least one member of the private sector. We propose for this representative to be the CEO of Int@j.
Another reason for the above addition is that the private sector is an important stakeholder in many of the NITC initiatives as the development of Jordan's IT sector is one of its key objectives.

Add:

The board of Directors must consist of at least one **representative from the academic world.**

Reason for addition:
The academic world is also an important stakeholder of the NITC, since the development Jordan's ICT skills are amongst NITC's key objectives. Having a university Dean in the Board will broaden the board's perspective and will facilitate a structured interaction between NITC and these key stakeholders, so all will be able to prepare themselves well in advance for each other's needs.

Also view chapter 6 Governance.

In addition to all of the above we recommend a name change for the NITC as part of the re-branding strategy. The NITC should have a name that appeals to ICT professionals and companies. In addition the name should be in line with the new NITC image (not an abbreviation).

14 Infrastructure & Facilities

In this chapter, we will give an indication for NITC's requirements regarding ICT infrastructure and office facilities.

14.1 Government Ops Center equipment and facilities

NITC's ICT infrastructure is determined by what the Government Ops Center needs to provide its services at the required service levels. Since we propose that NITC will outsource its Ops Center operations, these infrastructure requirements will be determined by the Outsource Provider, based on the service usage and service level requirements as specified by NITC. For budgeting purposes however, we will give a first estimate.

The current e-Government Ops Center was built for an all-in price of around JD 1,500,000. We estimate that upgrading these facilities to accommodate for future 5-year growth and consolidation of all government NOC's and data centers will require an additional investment between JD 500,000 and JD 1,000,000. We believe that an additional JD 1,000,000 to JD 2,000,000 of equipment will cater for the required racks, servers and routers. The first investment in Ops Center facilities is required in the first year (2005). The investments in equipment are spread over a 5 year period.

This estimation will be further founded while drafting the RFP for the outsourcing tender.

14.2 Office facilities

NITC needs office space and facilities for its own employees and for the employees that are working under outsourcing contracts. Based on initial findings, the first basement, ground floor and first floor of the current NITC building will be available for at least the coming 10 years. This is a very adequate location for the Government Ops Center facilities and its staff.

For the other NITC departments, we reserve 20 m^2 for each employee and 40 m^2 for each manager, this will include sufficient desk space and meeting room facilities and also hallways, lavatories etc. Since we have 96 NITC employees 10 managers, we will need a total of approximately 2000 m^2.

All work places will be equipped with a desktop computer, connected to a LAN connected to the SGN.

15   Appendix I Job Profiles

15.1 General Staff

Head of Secretariat
Objectives
Responsible for the co-ordination of the development and execution of the ICT Master Plan, making sure it is consistent with MoICT's policies and National ICT Strategy. Manage NITC's internal and external communications to explain NITC's stakeholders about its direction, objectives and progress. Support the CEO by reviewing and updating NITC's strategies.
Primary tasks
- Co-ordinate activities of Secretariat and coach and motivate its staff;   - Co-ordinate development of ICT Master Plan by integrating contributions from NITC's other departments and from the ICT Steering Committee;   - Monitor and report the progress of the ICT Master Plan;   - Periodically review NITC's strategy and develop and monitor NITC's operational plans;   - Oversee the implementation of MoICT's policies and National ICT Strategy and discuss this implementation with MoICT's policy makers;   - Manage MoICT's internal and external communication.

Chief Executive Officer
Objectives
The CEO is responsible for the execution of NITC's strategic and operational plans, with particular emphasis on enhancing NITC's position as quality ICT service provider to government entities and gaining trust and respect as Jordan's ICT authority.
Primary tasks
- Formulate and execute major policies, programs and objectives to promote and ensure NITC's continuing success and growth;   - Take a leadership role in realizing NITC's vision and mission;   - Achieve quality service with maximum efficiency through the efforts of a strong management team;   - Develop management personnel and implement effective succession plans;   - Establish and maintain strong relationships with NITC's board members and key stakeholders necessary for enabling NITC to achieve its objectives at government entities and within Jordan's IT sector;   - Foster an achievement-oriented culture based on continuous learning principles where employees are motivated and rewarded for both individual and team contributions.

Communication Specialist
Objectives
Responsible for external and selected internal communication projects and activities.
Primary tasks
- Developing and executing communication plans, both external and internal;   - Improve understanding between organization and environment by clear publications;   - Creating press releases - writing, editing, copy-editing, delivering to journalists;   - Improve public knowledge of NITC existence and activities, implement public campaigns, advertisement activities and events;

Human Resource specialist
Objectives
Provision of a professional HR support service through all administrative tasks, including maintenance of personnel systems and production of reports. Offer support and advice to line managers and employees on employment law issues, policies and procedures, recruitment, coaching, training and compensation.
Primary tasks
o Ensure that the administrative process is efficient, accurate and straightforward.
o Maintain up-to-date knowledge of employment legislation in order to give expert advice to employees including employee relations, discipline and grievance, maternity and sickness absence.
o Provide a point of contact for NITC employees
o Provide resource planning support for MoICT programs and projects
o Administration of HR functions including contracts of employment, employee records, company cars, headcounts etc.
o If necessary providing expatriate administrative support such as work permits, visa, housing, travel arrangements.

o Inform personnel about recent developments within NITC;
    o Set up and guard NITC house style;
    o Organize press conferences and meetings with journalists and address journalists´ questions;
    o Organize NITC's presence at seminars and symposia;
    o Work with branding and advertisement agencies.

Human Resource manager
Objectives
The human resource manager is responsible for the HR policy, recruitment, rewarding (policy and administration), personnel administration, process support and quality management.
Primary tasks
o Address and review current policies and procedures regarding remuneration, recruitment, training, human development;
o Develop a strategy and policy for HR management, recruitment, performance appraisal and rewarding;
o Develop and monitor the company's formation plan;
o Manage the development of HR tools for job evaluation, rewarding, judgment, management development and training;
o Set up and sustain the working conditions;
o Advise and implement recruitment activities;
o Develop and implement company culture;
o Maintenance of personnel and salary administration.

Legal advisor
Objectives
Provide counsel and advice on a broad range of technology and telecommunications legal matters. Support procurement and service management activities in software, hardware, consulting services and telecommunications including drafting, reviewing and negotiating of third party contracts with suppliers.
Primary tasks

o Create and enhance standard models and templates (contracts, policies and other legal documents) for technology and telecommunications procurement and service management;
    o Develop a dispute resolution process in cooperation with the Government Ops Center and assist in solving disputes whenever requested;
    o Collaborate or cooperate with outside legal counsel, as appropriate, in various legal matters.

15.2 National Programs

Director of National Programs
Objectives
Responsible for efficient and effective project portfolio management.
Primary tasks
o Play a critical role in managing the projects and programs as devised in the ICT Master Plan; o Play a significant role in defining and implementing the service framework for the National Programs department and its mandate; o Manage people with a clear vision and direction; o Manage and enhance the formation of cross functional teams; o Promote and maintain the integrity and quality of the National Programs Arm and ensure awareness of this department within government as the ICT implementation arm; o Identify and assemble the appropriate blend of talents and additional resources to meet needs and objectives of the National Programs department; o Formulate contingency plans to address schedule revisions, manpower adjustments, fund allocations and work and training requirements. o Liaise with the Government Operations Center, the CTO, CFO and Government clients to monitor and support the level of service offered; o Ensure that the best industry practices are employed at all times, and that the internal processes and procedures are practiced and developed.

Program manager
Objectives
Holding project budget, the program manager manages the end-to-end delivery of ICT-related programs for government entities.
Primary tasks
o Manage large complex ICT projects regarding all project management aspects: money, time, information, organization, quality; o Delivery of strategic solutions to government entities; o Manage multiple suppliers; o Deliver ICT solutions in support of common business process designs for government entities; o Forge strong links with key individuals within the government and maintain effective communication links; o Foster an achievement-oriented culture based on continuous learning principles where employees are motivated and rewarded for both individual and team contributions; o Liaise with the Government Operations Center, the CTO, CFO and Government clients to ensure successful achievement of program results; o Ensure that the best industry practices are employed at all times, and that the internal processes and procedures are practiced and developed.

Senior project manager
Objectives
Management of ICT related government projects and all related resources
Primary tasks
o Working with government departments to ensure that proposed project results are appropriate, feasible, compatible and comply with national and international standards; o Managing the procurement of services for the project scope including procurement planning, solicitation planning through writing requests for proposals, solicitation, source selection and contract administration; o Working with suppliers, contractors and other third parties to ensure delivery of the

project within specification, on time and within budget;
o Planning, defining, verifying and controlling changes to project scope;
o Ensure timely and appropriate generation, collection, dissemination, storage and ultimate disposition of project information;
o Identifying, analyzing and responding to project risks and issues;
o Ensuring that all project elements are properly coordinated.

Business analyst
Objectives
Support government entities and project managers in defining the requirements for business reengineering efforts, strategic information planning, IT assessments and similar projects. Part of the business analyst's responsibility will be extensive specification and technical writing, documenting process and requirements.
Primary tasks
o Gather, analyze and summarize all client previous related documents, studies, projects, proposals, reports, assessments related to project initiatives.
o Assist in preparing business cases with cost benefits for the project stakeholders.
o Assist in clarifying the project scope.
o Assist in developing a communication plan for the project
o Develop a Project Charter
o Estimate user time and assist in scheduling.
o Monitor project progress by tracking activity; resolving problems; publishing progress reports; recommending actions.
o Maintains system protocols by writing and updating procedures.

Quality manager
Objectives
Ensure that the programs satisfy the needs for which they were undertaken. Support the project managers in identifying, analyzing and responding to program risks and issues. Ensure timely and appropriate generation, collection and dissemination, storage and ultimately disposition of program information.

Primary tasks
o Support the program and project managers in:
    o Identifying relevant quality standards and the procedures and tools to satisfy them;
    o Setting performance metrics;
    o Evaluating overall program performance on regular basis (Quality Assurance);
    o Ensure the quality of work performed by project managers through conducting projects health checks (Quality Control);
o Define and implement a risk and issues management plan, process and tools that will ensure identifying, analyzing and responding to program risks and issues;
o Ensure timely and appropriate generation, collection and dissemination, storage and ultimately disposition of program information;
o Define and implement a National Programs quality plan;
o Identify reporting requirements processes and tools, and maintain reports on all aspects of the various programs.

15.3 Chief Technology Office

Chief Technology Officer
Objectives
Overall responsibility for monitoring technological trends, standards and infrastructure and for project feasibility, architecture and data security.   Responsible for all ICT standardization and interoperability of ICT equipment in government.
Primary tasks
o Direct, manage and supervise the work of all members of the Technology department;   o Review and report on the status of technology implementation; make recommendations to improve effectiveness;   o In close collaboration with the CIOs of government entities, investigate development and trends in new technologies, evaluate feasibility and make recommendations;   o Record, disseminate and monitor implementation of ICT policies for government;   o Identify and assemble the appropriate blend of talents and additional resources to meet needs and objectives of the CTO department;   o Institute, as appropriate, system develop lifecycle standards and guidance for use by NITC Project Managers;   o Develop process for managing and sharing "living documents" such as the "Information Interoperability Framework (IIF)" and "Web Applications Assessment";   o Ensure that the best industry practices are employed at all times, and that the internal processes and procedures are practiced and developed.

Technology Researcher
Objectives
Responsible for the provisioning of information and (strategic) analyses about relevant trends and development of ICT technology for government applications.
Primary tasks
o Research ICT technology threats and opportunities;   o Maintain a current understanding of the trends in the software, hardware and telecom product and services and forecast the impacts of trends upon operations within government;   o Investigate development and trends in new technologies, evaluate feasibility and make recommendations;   o Advise on the use of new ICT technologies in government applications;   o Transfer technology knowledge within NITC;   o Represent NITC in ICT technology symposia and forums.

ICT expert Chief Technology Office
Objectives
Advise government entities on ICT procurement. Develop the ICT standards and guidelines for ICT equipment and applications and develops procedures for IT management. Ensure ICT compliance of government entities to the required guidelines and procedure.
Primary tasks
o Prepare technical reports by collecting, analyzing, and summarizing information and trends;   o Evaluate and examine the deployment of Information Technology Resources, including the manner in which such resources are acquired, installed, provided, managed and operated;   o Maintain professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; benchmarking state-of-the-art practices; participating in professional societies;   o Maintain strong, trusting, consultative relationships with the government CIOs;

o Solve organizational information problems and requirements by analyzing requirements; designing computer programs; recommending system controls and protocols;
o Contribute to team effort by accomplishing related results as needed.

Security specialist
Objectives
Responsible for developing, evaluating and implementing security policies and standards in government ICT infrastructure.
Primary tasks

o Develop and periodically review security policies, standards and guidelines;
o Oversee that these policies, standards and guidelines are implemented in the operational processes of government IT departments and in the SLA's with the outsource provider;
o Support Manpower Development department in developing security training programs for government IT staff;
o Arrange quarterly audit of implementation of security policies, standards and guidelines and follow up on the implementation of required improvement measures;
o Support e-Government and National Programs divisions in developing security and contingency plans, conducting security tests and evaluations, performing risk analyses, and obtaining security certification for their projects;
o Keep up-to-date with security threats and identify and evaluate future technologies in IT security;
o Investigate major security incidents, determine improvement measures and follow up on the implementation of these measures.

15.4 e-Government

Director of e-Government
Objectives
Establish and maintain the vision and objectives for e-Government within the GOJ. Provide leadership for the e-Government program through effective project management, support and pro-active engagement with government decision-makers and Information Technology units; responsible and accountable for all e-Government deliverables.
Primary tasks
o Provide group management for the resources within the e-Government office (to include activities such as morale and team building);   o Oversee group coordination and development , activities, budgets, tools, equipment and other resources devoted to the adoption and exploitation of e-Government in Jordan;   o Monitor the development and implementation of e-Government processes and introduce appropriate and timely corrective action where required;   o Forge strong links with key individuals within the government and maintain effective communication links on all issues relating to e-Government;   o Be the focal point for expertise, information and advice on all aspects of e-Government including engineering, computerization installation, support and impact on customers and staff;   o Monitor the use of risk and impact analysis.

Senior service innovator e-Government
Objectives
Introduction, adaptation and implementation of new e-Government services and full launch of these services.
Primary tasks
o Develop product plans for innovations and adjustments of e-Government services;   o Initiate market research and analyze results; generate new ideas for market;   o Co-ordinate the development and launch of new services including the market entry strategies for these services;   o Set up and update service information;   o Tune product development and product introduction within the NITC   o Monitor and improve the quality of services;   o Manage the direction of all product development phases of a new and/or enhanced service through production and release;   o Creation of functional specifications, delivery expectations, quality requirements of services;   o Works closely with other NITC departments, government entities and partners to ensure the detail service requirements and specifications and successfully implement the service.

Change manager
Objectives
Ensure effective project management and initiative implementation though alignment of strategy, process, technology and people.
Primary tasks
o Ensure that Business process re-engineering (BPR) and Change Management is specified and carried out according to the specified standards and procedures;   o Monitor, and update where necessary, standards and norms for BPR and Change Management;   o Write, update and complete BPR and Change Management requirements for all e-

Government RFP's in close consultation with the Chief Technology Office;
- o Review vendors' responses to ensure compliance with BPR and Change Management standards in close consultation with the Chief Technology Office;
- o Assist the e-Government Director with future development of the department (structure, people, process, culture, and technology) and considering development strategies and change drivers;
- o Create and implement a transition plan to align the affected elements of the organization;
- o Proactively identify training needs for the staff, and coordinate with the NITC HR Manager and with the Director of Manpower Development.

Senior content manager

Objectives

Direct the management, coordination and content control activities and standards for the GOJ Portal and the NIS.

Primary tasks
- o Configuration and maintenance of portal content management software;
- o Creation and maintenance of portal-specific and government-wide content;
- o Ongoing revision of e-Government portal structure, design, and layout to constantly improve usability and editorial qualities;
- o Monitoring of portal content, and the content of externally linked GoJ websites, for timeliness, appropriateness, and quality;
- o Liaison and technical support person for external content providers in other GoJ ministries, agencies, and organizations;
- o Coordinate and follow-up with the governmental agencies' content managers to ensure updated content;
- o Measure public acceptance and usage.

Architect e-Government

Objectives

The Architect is responsible for local architectural issues related to the e-Government infrastructure based on new services, developments and growth. This implies planning and delivery of the needed capacity on time and technical development of the e-Government and NIS portal and platform.
In addition the architect is responsible for the e-Government Gateway layer.

Primary tasks
- o Defines and integrates services such as access, file transfer, messaging, mail, directory and naming services to provide communication capability access across heterogeneous platform and network environments;
- o Evaluates and selects services and products that are compliant with open system standards to ensure interoperability between diverse systems;
- o Identifies hardware, software and firmware components and operating services to enable communication;
- o Applies knowledge of relationships for diverse protocols and network services to integrate the components into a total solution;
- o Develop and provide input to e-Government SLA's and operations procedures for e-Government infrastructure projects between MoICT and other organizations.

Web specialist e-Government

Objectives

Ensure the development of the e-Government portal; support services innovation. Support the (re)design and web maintenance of the NIS.

Primary tasks
- o Responsible for selecting a web portal

o Selecting search engine
o Develop web standards and guidelines
o Identify web owners and profiling web services
o Support the service innovators in developing e-services
o Develop new forms
o Develop Publishing and testing authorization process
o Identify need for multi-lingual web sites
o Determine database language and need for multiple databases

15.5 Government Operations Center

Manager Government Operations Center
Objectives
Responsible for the operations of the technical infrastructure of the NITC, which supports the business processes. The main objectives are management of the outsourcing partner, ensuring adherence to predefined service levels and planning for future growth of the Government Ops Center
Primary tasks
- Management of operations and planning of the Ops Center including formulation of strategic outsourcing options, model/analyze each option and recommend the option for government   - Define government entities' current and future software, hardware and telecom requirements;   - Monitor performance of /cost /value analysis of outsourced services;   - Assist in the development of procurement function procedures;   - Develop and maintain a high performing, committed staff;   - Supplier, quality and service management;   - Contract management for the outsourced infrastructure.

Supplier manager
Objectives
Develop, negotiate, agree and manage SLA's on IT-services with the outsourcing partner; managing the contract on a day-to-day basis with the outsourcing partner; relationship management with the outsourcing partner.
Primary tasks
- Implement and manage SLA's and exercise change control, acceptance testing, etc. over any changing or new service elements of the services delivered by the outsourcing partner;   - Periodic review of the services and SLA's, including future plans and risk assessment as required;   - Setting up effective operational and tactical interfaces and reporting arrangements;   - Develop and manage a service management policy and handbook to monitor and continuously improve the quality of service delivery;   - Leading the discussions on any proposed changes or improvements to the services with relevant parties;   - Define and maintain formal acceptance procedures for a smooth and professional transfer of new applications into production;   - Be informed about all projects that are currently under development, to be able to pro-actively prepare for new applications and services;   - Manage the dispute resolution process.

Service level manager
Objectives
Develop, negotiate, agree and manage Service Level Agreements (SLA's) on Government Ops Center services with government entities.
Primary tasks
- Determine service level requirements for Government Ops Center services, by building and maintaining strong relations relevant representatives of government entities;   - Translate customer service level requirements into requirements for the outsource provider in co-ordination with Supplier manager;

> o Develop and maintain SLA's with government entities, based on back-to-back SLA's with outsource provider;
> o Periodic review of the services and SLA's, including future plans and risk assessment as required;
> o Setting up effective operational and tactical interfaces and reporting arrangements;
> o Develop and manage a service management policy and handbook to monitor and continuously improve the quality of service delivery;
> o Leading the discussions on any proposed changes or improvements to the services with relevant parties;
> o Define and maintain formal acceptance procedures for a smooth and professional transfer of new service levels;
> o Be informed about all projects that are currently under development, to be able to pro-actively prepare for new applications and services;
> o Manage the dispute resolution process.

15.6 Finance

Chief Financial Officer
Objective
Responsible for all activities with regard to finance, purchasing, management reporting, facilities, legal affairs, as well as for the project planning and control.
Primary tasks
o Determine financial strategies for the NITC; o Approve and monitor the operational plans of the departments (budgets, targets, number of employees, SLA's) and report on these items to the CEO and Board; o Support cross functional team members in negotiating appropriate agreements with suppliers as well as supporting legal in finalizing and executing contracts; o Determine facility policies; o Manage the annual budgeting and strategic planning activities for the NITC; o Serve as a sounding board for expansion and potential partners; o Responsible for the NITC's financial plans and policies, its accounting practices, the maintenance of its fiscal records, and the preparation of financial reports. o Work with the NITC departments to understand risks & opportunities in the plans, actions to be taken to mitigate risk or take advantage of the opportunities; o Responsible for providing advice internally on regulatory finance and accounting matters; o Elevate financial issues/concerns regarding the plans and programs to the CEO.
Manager Facilities
Objectives
The manager Facilities oversees day-to-day operations of all domestic NITC facilities and is responsible for an optimal service including maintenance of the buildings, and all internal facilities such as security, office automation, reception, canteen, meeting room, postal services, cleaning and for management support. The manager Facilities works closely with the management team in the strategic planning of and build-out of new facilities as the company continues to expand.
Primary tasks
o Approve/monitor divisional spending for catering, office supplies, refreshments, office reconfigurations, and facility work; o Set up working processes and escalation procedures; o Co-ordinate office allowances by determining budget, identifying design firm, and acting as liaison between interior designers and executives to lay out their office space, purchase furniture and accessories, and schedule delivery; o Build customer relationships - communicating regularly with internal customer and executives, responding promptly to their needs, and educating them on company policies and procedures; o Co-ordinate technical maintenance of the building; o Set up housing and movement plans and co-ordinate the execution; o Set up deals and Service Level Agreements with suppliers; o Set up security plans and safety procedures; o Set up policy for office automation and the IT infrastructure.

Controller
Objective
Analysis and co-ordination of the NITC's business planning and annual plans, consulting and reporting to the Board of directors, and monitoring the departmental contributions to the results of the NITC.
Primary tasks
o Co-ordinate and execute the setting up of the company business year plan, including financial foundation and investments analyses;

o Analyze and report company prospects versus realization regarding financial development, quality etc.;
o Approve business cases devised by e-Government and the National Programs arm and act as advisor to program managers;
o Make reports for the Board of Directors and the Cabinet;
o Determine the construction of the financial administration, taxes, insurance, lease plans, etc.;
o Cost price calculation and Treasury management;
o Manage internal control, financial audits, control procedures for financial flows.

Financial analyst
Objectives
Responsible for feasibility studies and business cases for new ICT initiatives and services. Advise Ministry of Finance on ICT budget requests by government entities and ICT budget releases to government entities.
Primary tasks
o Develop business cases and feasibility studies to decide whether new ICT initiatives should become programs;
o Support National Programs and e-Government departments in project ROI consulting and financial modeling for projects and services;
o Support project and program managers in their budgeting and resource allocation;
o Co-ordinate NITC's advice to the Ministry of Finance on ICT budget requests by government entities on whether these requests are in line with the ICT Master Plan;
o Co-ordinate NITC's advice to the Ministry of Finance on ICT budget releases to government entities on whether the intended procurement of ICT products and services requests are in line with the approved budget.

Contract manager
Objectives
Ensures NITC procures efficiently and effectively and that procurement procedures are followed. Ensures contracts with vendors are drawn up and feasible.
Primary tasks
o Negotiate, develop and maintain purchasing arrangements for hardware, software and peripherals in line with agreed standards and assessed requirements;
o Be the principle point of contact for supplier relations;
o Lead on and be responsible for the preparation of specifications and the processing and evaluation of tenders/quotations for the supply of ICT goods and services;
o Ensure that standards of cost and quality are maintained by suppliers;
o Ensure an up-to-date database is maintained for all contracts for ICT goods and services;
o Ensure that purchasing and contract activities comply with relevant legislation, policies and procedures;
o Take responsibility for the resolution of contract-related issues;
o Pro-actively monitor and manage contracts with third-party suppliers and make recommendations for future improvements to ensure best value for the NITC.

15.7 Manpower Development

Director Manpower Development
Objectives
Responsible for the development and execution of ICT training programs for government employees and government IT staff. Manages the development of competencies for NITC staff. Supports development of ICT competencies of Jordanian citizens and businesses, to enhance Jordan's IT industry.
Primary tasks
o Co-ordinate activities of Manpower Development department and coach and motivate its staff;   o Assess ICT training needs of government entities by attending ICT Steering Committee meetings and building strong relationships with CIO's of government entities;   o Negotiate contracts with training bureaus that can execute training programs: o Build and maintain strong relationships with representatives from academic world and other educational institutions;   o Support National Programs division regarding manpower development issues.

Training manager
Objectives
Responsible for developing, organizing and monitoring ICT training programs government employees and for government IT staff.
Primary tasks
o Set and maintain training standards for basic ICT training of government employees and develop corresponding training programs;   o Set and maintain training standards for training of government IT staff and develop corresponding training programs;   o Plan execution of training programs in co-ordination with CIO's of government entities;   o Keep track of progress of training programs;   o Monitor and report about certification of government employees and government IT staff.

Competence manager
Objectives
Responsible for the development and implementation of competence management within NITC, to enhance NITC's skill sets required to meet NITC's strategic objectives and to establish NITC as an 'employer of choice'.
Primary tasks
o Develop a competence management system that defines the set of competences NITC requires to meet its strategic objectives;   o Ensure NITC uses competence management principles in selecting staff, evaluating performance and developing career paths;   o Develop and organize training programs to support the development of competencies;   o Support HR department in prioritizing competencies by job, project, or position, and in tracking individuals' abilities to fulfill requirements;   o Monitor and report on the accumulated competence of the entire organization.

16 Appendix II Financial Projections

16.1 Income Statement

NITC Income Statement	2005	2006	2007	2008	2009
Revenues					
National Programs	JOD 523,947	JOD 938,301	JOD 960,195	JOD 982,599	JOD 1,005,527
Government Ops Center + e-Government	JOD 2,939,862	JOD 3,872,827	JOD 4,412,998	JOD 4,850,492	JOD 5,224,523
CTO	JOD 14,710	JOD 16,559	JOD 18,640	JOD 19,614	JOD 21,075
Manpower Development	JOD 379,947	JOD 818,932	JOD 1,050,219	JOD 1,077,596	JOD 1,105,757
Total revenues	**JOD 3,858,466**	**JOD 5,646,619**	**JOD 6,442,052**	**JOD 6,930,302**	**JOD 7,356,881**
Costs of goods sold					
ICT courses	JOD 300,000	JOD 716,333	JOD 942,490	JOD 964,481	JOD 986,986
Ops Center outsourcing	JOD 2,540,127	JOD 3,350,506	JOD 3,864,562	JOD 4,274,634	JOD 4,619,872
Total CoGS	**JOD 2,840,127**	**JOD 4,066,840**	**JOD 4,807,052**	**JOD 5,239,116**	**JOD 5,606,858**
General and administrative expenditures	JOD 2,371,271	JOD 2,985,649	JOD 2,946,187	JOD 3,093,129	JOD 3,247,967
Operating result	(JOD 1,352,931)	(JOD 1,405,870)	(JOD 1,311,187)	(JOD 1,401,943)	(JOD 1,497,943)
Investments	JOD 621,000	JOD 302,360	JOD 82,436	JOD 70,071	JOD 59,560
Gross Budget requirements	JOD 1,973,931	JOD 1,708,230	JOD 1,393,623	JOD 1,472,013	JOD 1,557,503
Funds & Grants available					
Net Budget requirements	JOD 1,973,931	JOD 1,708,230	JOD 1,393,623	JOD 1,472,013	JOD 1,557,503

16.2 General Assumptions

	Base	2005	2006	2007	2008	2009
Inflation Dinar	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
Dinar rate to USD	0.714	0.714	0.714	0.714	0.714	0.714
Yearly increase	0%					
Interest rate	10%	10%	10%	10%	10%	10%

16.3 Revenues

CTO

Domain names registered	500	550	605	666	699	734
Yearly growth		10%	10%	10%	5%	5%
Registration fee	JOD 25	JOD 26	JOD 26	JOD 27	JOD 27	JOD 28
Yearly subscription fee	JOD 25	JOD 26	JOD 26	JOD 27	JOD 27	JOD 28

Manpower Development

Number of basic ICT courses	2000	6000	8000	8000	8000
Price per basic ICT course	JOD 100	JOD 102	JOD 105	JOD 107	JOD 110
Number of specialist ICT courses	100	100	100	100	100
Price per specialist ICT course	JOD 1.000	JOD 1.023	JOD 1.047	JOD 1.072	JOD 1.097
Mark-up for training development	JOD 79.947	JOD 102.599	JOD 107.729	JOD 113.115	JOD 118.771

Revenues

National Programs	JOD 654.933	JOD 1.139.366	JOD 1.165.951	JOD 1.193.156	JOD 1.220.997
Government Ops Center + e-Government	JOD 2.939.862	JOD 3.872.827	JOD 4.412.998	JOD 4.850.492	JOD 5.224.523
CTO	JOD 14.710	JOD 16.559	JOD 18.640	JOD 19.614	JOD 21.075
Manpower Development	JOD 379.947	JOD 818.932	JOD 1.050.219	JOD 1.077.596	JOD 1.105.757
Total revenues	**JOD 3.989.453**	**JOD 5.847.683**	**JOD 6.647.808**	**JOD 7.140.859**	**JOD 7.572.351**

16.4 Organization

NITC's organizational development is shown for the first two years. For 2007 – 2009, the organization will not change.

Salary Expenses

			Pension	11%
			Benefits	10%
Yearly salary rise	5%		Bonuses	20%
Total additional expenses	41%			

	Monthly salary	2005			2006			2007			2008			2009
		# of new FTE	total # of FTE	Costs	# of new FTE	total # of FTE	Costs	# of new FTE	total # of FTE	Costs	# of new FTE	total # of FTE	HR costs	# of new FTE
TOTAL		80	80	1.524.323	26	106	2.094.878	0	106	2.199.622	0	106	2.309.603	0
General Management & Staff														
CEO	JOD 4.000	1	1	71.064	0	1	74.617	0	1	78.348	0	1	82.265	0
Executive assistant	JOD 800	1	1	14.213	0	1	14.923	0	1	15.670	0	1	16.453	0
Secretary	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
HR manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
HR specialist	JOD 1.000	1	1	17.766	1	2	37.309	0	2	39.174	0	2	41.133	0
HR administrator	JOD 300	1	1	5.330	0	1	5.596	0	1	5.876	0	1	6.170	0
Registry	JOD 500	2	2	17.766	0	2	18.654	0	2	19.587	0	2	20.566	0
Telephone operators	JOD 300	2	2	10.660	0	2	11.193	0	2	11.752	0	2	12.340	0
Head of Secretariat	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Communication specialist	JOD 1.000	1	1	17.766	1	2	37.309	0	2	39.174	0	2	41.133	0
Administrator	JOD 300	1	1	5.330	0	1	5.596	0	1	5.876	0	1	6.170	0
Legal advisor	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Divisional total				248.724			298.469			313.392			329.062	
Finance														
CFO	JOD 3.000	1	1	53.298	0	1	55.963	0	1	58.761	0	1	61.699	0
Secretary	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Controller	JOD 1.500	1	1	26.649	1	2	55.963	0	2	58.761	0	2	61.699	0
Financial analyst	JOD 1.000	2	2	35.532	2	4	74.617	0	4	78.348	0	4	82.265	0
Contract manager	JOD 1.500	1	1	26.649	1	2	55.963	0	2	58.761	0	2	61.699	0
Financial administrator	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Billing administrator	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Facilities manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
IT support staff	JOD 600	2	2	21.319	1	3	33.578	0	3	35.257	0	3	37.019	0
Administrator	JOD 300	1	1	5.330	0	1	5.596	0	1	5.876	0	1	6.170	0
Supplies	JOD 300	1	1	5.330	1	2	11.193	0	2	11.752	0	2	12.340	0
Driver	JOD 300	4	4	21.319	0	4	22.385	0	4	23.504	0	4	24.680	0
Cleaner	JOD 100	2	2	3.553	1	3	5.596	0	3	5.876	0	3	6.170	0
Office assistant	JOD 150	2	2	5.330	0	2	5.596	0	2	5.876	0	2	6.170	0
Divisional total				257.607			382.413			401.534			421.610	
National Programs														
National Programs director	JOD 3.000	1	1	53.298	0	1	55.963	0	1	58.761	0	1	61.699	0
Secretary	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Portfolio manager	JOD 2.000	1	1	35.532	0	1	37.309	0	1	39.174	0	1	41.133	0
Quality manager	JOD 1.000	1	1	17.766	1	2	37.309	0	2	39.174	0	2	41.133	0
Administrator	JOD 300	1	1	5.330	0	1	5.596	0	1	5.876	0	1	6.170	0
Program manager	JOD 2.000	2	2	71.064	0	2	74.617	0	2	78.348	0	2	82.265	0
Senior project manager	JOD 1.500	4	4	106.596	3	7	195.870	0	7	205.664	0	7	215.947	0
Business analyst	JOD 1.000	4	4	71.064	4	8	149.234	0	8	156.696	0	8	164.531	0
Project administrator	JOD 500	2	2	17.766	2	4	37.309	0	4	39.174	0	4	41.133	0
Divisional total				387.299			602.534			632.661			664.294	

e-Government

Position	Rate													
Director e-Government	JOD 3.000	1	1	53.298	0	1	55.963	0	1	58.761	0	1	61.699	0
Secretary	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Senior service innovator	JOD 1.500	1	1	26.649	1	2	55.963	0	2	58.761	0	2	61.699	0
Service manager	JOD 1.000	1	1	17.766	1	2	37.309	0	2	39.174	0	2	41.133	0
Change manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Process manager	JOD 1.000	2	2	35.532	2	4	74.617	0	4	78.348	0	4	82.265	0
Senior content manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Content manager	JOD 1.000	2	2	35.532	1	3	55.963	0	3	58.761	0	3	61.699	0
Quality manager	JOD 1.000	1	1	17.766	0	1	18.654	0	1	19.587	0	1	20.566	0
Infrastructure specialist	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Web specialist	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Project administrator	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Divisional total				**310.905**			**429.049**			**450.501**			**473.026**	

Government Ops Center

Position	Rate													
Ops Center manager	JOD 2.000	1	1	35.532	0	1	37.309	0	1	39.174	0	1	41.133	0
Service level manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Supplier manager	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Divisional total				**88.830**			**93.272**			**97.935**			**102.832**	

CTO

Position	Rate													
CTO	JOD 2.000	1	1	35.532	0	1	37.309	0	1	39.174	0	1	41.133	0
Secretary	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
ICT experts	JOD 1.500	2	2	53.298	1	3	83.944	0	3	88.142	0	3	92.549	0
Technology researcher	JOD 1.000	1	1	17.766	0	1	18.654	0	1	19.587	0	1	20.566	0
Security specialist	JOD 1.500	1	1	26.649	0	1	27.981	0	1	29.381	0	1	30.850	0
Administrator	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Divisional total				**151.011**			**186.543**			**195.870**			**205.664**	

Manpower Development

Position	Rate													
Director Manpower Development	JOD 2.000	1	1	35.532	0	1	37.309	0	1	39.174	0	1	41.133	0
Training manager	JOD 1.000	1	1	17.766	1	2	37.309	0	2	39.174	0	2	41.133	0
Competence manager	JOD 1.000	1	1	17.766	0	1	18.654	0	1	19.587	0	1	20.566	0
Administrator	JOD 500	1	1	8.883	0	1	9.327	0	1	9.794	0	1	10.283	0
Divisional total				**79.947**			**102.599**			**107.729**			**113.115**	

16.5 General & Administrative

		2005	2006	2007	2008	2009
General & Administrative						
Office rent						
Number of employees		64	88	88	88	88
m2 per employee		20	20	20	20	20
Number of managers		10	10	10	10	10
m2 per manager		40	40	40	40	40
Square meters required		1,680	2,160	2,160	2,160	2,160
All-in price per m2 per year		JOD 60	JOD 61	JOD 63	JOD 64	JOD 66
Total rent		**JOD 100,800**	**JOD 132,624**	**JOD 135,719**	**JOD 138,885**	**JOD 142,126**
Marketing & Communications						
Required budget		JOD 100,000	JOD 110,000	JOD 121,000	JOD 133,100	JOD 146,410
Yearly increase		10%	10%	10%	10%	10%
Total marketing expenses		**JOD 100,000**	**JOD 110,000**	**JOD 121,000**	**JOD 133,100**	**JOD 146,410**
Salaries		JOD 1,453,259	JOD 1,996,010	JOD 2,095,811	JOD 2,200,601	JOD 2,310,631
Training						
training cost per existing employee		JOD 1,000	JOD 1,023	JOD 1,047	JOD 1,072	JOD 1,097
cost of training existing employees		JOD 0	JOD 75,727	JOD 102,627	JOD 105,021	JOD 107,472
Training cost per new employee		$ 3,000	$ 3,070	$ 3,142	$ 3,215	$ 3,290
cost of training new employees		JOD 222,000	JOD 73,680	JOD 0	JOD 0	JOD 0
Total cost of training		**JOD 222,000**	**JOD 149,407**	**JOD 102,627**	**JOD 105,021**	**JOD 107,472**
Organization Development Consultancy		**JOD 100,000**	**JOD 100,000**			
Additional G&A	20%					
Subtotal G&A		JOD 1,976,059	JOD 2,488,041	JOD 2,455,156	JOD 2,577,608	JOD 2,706,639
Total additional G&A		**JOD 395,212**	**JOD 497,608**	**JOD 491,031**	**JOD 515,522**	**JOD 541,328**
Total G&A		**JOD 2,371,271**	**JOD 2,985,649**	**JOD 2,946,187**	**JOD 3,093,129**	**JOD 3,247,967**

16.6 Outsource Contract

		2005	2006	2007	2008	2009
Investments						
Datacenter Facilities		JOD 750,000	JOD 0	JOD 0	JOD 0	JOD 0
Upgrades and maintenance	10%		JOD 75,000	JOD 75,000	JOD 75,000	JOD 75,000
Equipment		JOD 300,000	JOD 300,000	JOD 300,000	JOD 300,000	JOD 300,000
Furniture		JOD 10,000	JOD 10,000	JOD 10,000	JOD 10,000	JOD 10,000
Total Investments		JOD 1,060,000	JOD 385,000	JOD 385,000	JOD 385,000	JOD 385,000
Depreciation rates						
Plant, machinery & equipment	20.0%					
Furniture	25.0%					
Plant, machinery, equipment and exchanges						
Book value	JOD 1,500,000	JOD 2,250,000	JOD 2,175,000	JOD 2,115,000	JOD 2,067,000	JOD 2,028,600
Additions		JOD 1,050,000	JOD 375,000	JOD 375,000	JOD 375,000	JOD 375,000
Depreciation		JOD 300,000	JOD 450,000	JOD 435,000	JOD 423,000	JOD 413,400
Furniture						
Book value	JOD 10,000	JOD 17,500	JOD 23,125	JOD 27,344	JOD 30,508	JOD 32,881
Additions		JOD 10,000	JOD 10,000	JOD 10,000	JOD 10,000	JOD 10,000
Depreciation		JOD 2,500	JOD 4,375	JOD 5,781	JOD 6,836	JOD 7,627
Staff						
Number of staff	20	26	32	38	44	50
Average monthly salaries	JOD 1,000	JOD 1,050	JOD 1,103	JOD 1,158	JOD 1,216	JOD 1,276
Salary expenses		JOD 461,916	JOD 596,938	JOD 744,307	JOD 904,920	JOD 1,079,734
Bandwidth expenses						
National Bandwidth						
Monthly fee E1 from JT		JOD 350	JOD 315	JOD 284	JOD 255	JOD 230
Price decrease		10%	10%	10%	10%	10%
Number of E1's required		20	50	100	150	200
Cost for National Bandwidth		JOD 84,000	JOD 189,000	JOD 340,200	JOD 459,270	JOD 551,124
International Bandwidth						
Bandwidth required	Mbps	20	40	60	80	100
Costs per 40 Mb per year		JOD 1,200,000	JOD 1,080,000	JOD 972,000	JOD 874,800	JOD 787,320
Cost for International Bandwidth		JOD 848,528	JOD 1,080,000	JOD 1,190,452	JOD 1,237,154	JOD 1,244,862
Total Bandwidth		JOD 932,528	JOD 1,269,000	JOD 1,530,652	JOD 1,696,424	JOD 1,795,986
Interest		JOD 257,000	JOD 257,000	JOD 257,000	JOD 257,000	JOD 257,000
Sub-total		JOD 1,953,944	JOD 2,577,313	JOD 2,972,740	JOD 3,288,180	JOD 3,553,747
Overhead + Margin		30%	30%	30%	30%	30%
Outsource Contract Value		**JOD 2,540,127**	**JOD 3,350,506**	**JOD 3,864,562**	**JOD 4,274,634**	**JOD 4,619,872**

16.7 Investments

		2005	2006	2007	2008	2009
Office refurbishing		JOD 500.000	JOD 200.000			
PC's						
Number of new PC's		80	26	0	0	0
Price per PC (all-in)		JOD 1.500	JOD 1.365	JOD 1.256	JOD 1.168	JOD 1.098
Price decrease equipment		10%	9%	8%	7%	6%
Total PC's		**JOD 120.000**	**JOD 35.490**	**JOD 0**	**JOD 0**	**JOD 0**
Furniture, fittings & vehicles & IT						
Office refurbishing		JOD 500.000	JOD 200.000	JOD 0	JOD 0	JOD 0
PC's		JOD 120.000	JOD 35.490	JOD 0	JOD 0	JOD 0
Upgrades	10%	JOD 10.000	JOD 70.500	JOD 83.474	JOD 70.953	JOD 60.310
Total furniture, fitings, vehicles & IT		**JOD 630.000**	**JOD 305.990**	**JOD 83.474**	**JOD 70.953**	**JOD 60.310**
Depreciation rates						
Furniture, fittings & vehicles & IT	25,0%					
Furniture, fittings & vehicles & IT						
Book value	JOD 100.000	JOD 705.000	JOD 834.740	JOD 709.529	JOD 603.100	JOD 512.635
Additions		JOD 630.000	JOD 305.990	JOD 83.474	JOD 70.953	JOD 60.310
Depreciation		JOD 25.000	JOD 176.250	JOD 208.685	JOD 177.382	JOD 150.775
FIXED ASSETS						
Furniture, fittings & vehicles & IT		JOD 705.000	JOD 834.740	JOD 709.529	JOD 603.100	JOD 512.635
		JOD 705.000	JOD 834.740	JOD 709.529	JOD 603.100	JOD 512.635
DEPRECIATION						
Furniture, fittings & vehicles & IT		JOD 25.000	JOD 176.250	JOD 208.685	JOD 177.382	JOD 150.775
		JOD 25.000	JOD 176.250	JOD 208.685	JOD 177.382	JOD 150.775

17 Appendix III documents and websites referenced

Ref. no	Name and version	Date	Author
1	The Law on Deployment of Information Technology Resources in Governmental Entities.	June 2003	International Business Legal Associates (IBLAW) for the AMIR Program in Jordan.
2	Statement of National Strategy, related to the Information and Communications Technology and Postal sectors of the Jordanian economy	June 2004	MoICT
3	Law Amending the Telecommunications Law of 2002	June 2003	
4	Electronic Transactions Law No. (85) of 2001	April 2003	IBLAW (AMIR program for USAID)
5	National Information Center (NIC) Audit Jordan e-Government Program; The evaluation of Internet Service Quality report for NIC	June 11, 2003	Abdullah S. Rifai ICT Consultant
6	Statement of Government policy on the Information and Communications Technology & Postal sectors	September 4, 2003	Ministry of Information and Communications Technology
7	MoICT Data Centre Architecture & Implementation Life Cycle	August 15, 2002	Electronic Data Systems Corporation for the AMIR program of USAID
8	Quality Management Standards e-Government Government Ops Center	November, 2003	Mamoon Homssi Government Ops Center Manager
9	Guide for the establishment of a Network Operations Centre for National Broadband Network	January, 2004 Draft	Ed Smit, Project manager NBN
10	Data Center Business Requirements for the National Broadband Network	March, 2004 Draft	Ed Smit, Project manager NBN
11	RFP: E Government Data Center and Operation Center	July 22, 2002	AMIR program for USAID
12	Jordan Education Initiative Baseline Proposal	September, 2003	Alex Wong (World Economic Forum)
13	Knowledge stations Financial Sustainability Assessment; Draft Report	March 2004	Richard Civille, Mona Affifi, Steve Cisler, Michael Gurstein, Peter Miller; AMIR program for USAID.
14	The Knowledge Stations Financial Sustainability Plan		AMIR Program
15	The Hashemite Kingdom of Jordan e-Government Blueprint and Roadmap	September 12, 2001	Electronic Data Systems Corporation
16	Draft The Implementation Blueprint for Jordan National IT Center	June 2004 Version 1.6	Special Projects Office, IDA Singapore
17	WMRC Country report Jordan	April 2004	World Markets Research Centre
18	Benchmark studies		www.ida.gov.sg

			www.e-envoy.uk www.rdec.tapei.gov.tw www.nic.in
19	Country report Singapore	September, 2003	ICA
20	e-Government, a strategic framework for public services in the Information age	April, 2000	www.e-envoy.gov.uk
21	Website of the current NITC		www.nic.jo
22	ICT in Education	Policy Draft June, 2004	Ministry of Education
23	Report on Consolidation of Government Ops Centres, Disaster Recovery Approach and Future Strategy	Version 1.0, July 07, 2004	Peter Matthews, Computer Associates Andreas Sommer, Sommer Engineering & Consulting
24	Information Age Policies and Strategies	August 2001	NIC

18 Appendix IV List of abbreviations

ABC	Activity Based Costing
AMIR	Achievement of Market-friendly Initiatives and Results program
ASEZA	Aqaba Special Economic Zone Authority
BOT	Build-Operate-Transfer
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIO	Chief Information Officer
CSF	Critical Success Factor
CTO	Chief Technology Officer
e-Government	Electronic Government
ERfKE	Educational Reform for Knowledge Economy
GoJ	Government of Jordan
HR	Human Resources
IDA	Infocomm Development Authority
IE	Information Economics
ISP	Internet Service Provider
ICT	Information and Communications Technology
Int@j	Information Technology Association of Jordan
IT	Information Technology
JD/JOD	Jordanian Dinar
JEI	Jordan Education Initiative
ITIL	Information Technology Infrastructure Library
KPI	Key Performance Indicator
LAN	Local Area Network
MNC	Multi National Company
MoICT	Ministry of Information And Communications Technology
NBN	National Broadband Network
NIC	National Information Center
NIS	National Information System
NITC	National Information and Technology Center
NOC	Network Operations Center
PC	Personal Computer
QoS	Quality of Service
RFP	Request For Proposal
SGN	Secure Government Network
SLA	Service Level Agreement
SWOT	Strengths, Weaknesses, Opportunities and Threats
VPN	Virtual Private Network